HISTORICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.

FEB 6 1930

AMERICAN FEDERATIONIST

LABOR · OMNIA · VINCIT

FEBRUARY
1930

Uncle Sam's Business
Luther C. Steward, Gertrude McNally, Gen. Frank T. Hines, Lewis Meriam, A. F. Woods, W. G. Voss, Lee R. Whitney, Jane Washington, Dr. George K. Burgess

American Labor as Seen by a French Worker
Eleanor Bushnell Cooke

Organize the South
William Green

Unemployment

VOL. 37 No. 2

Twenty Cents a Copy

It's a handful!

Give your grocer or druggist a dime (or 6 cents if it's a long way to pay day) and he'll slip you a big handful of Lava Soap—the liveliest, *safest* dirt and grease chaser ever made for a man's hands. If you want proof of this statement, pick out the *clean* hands at your next meeting, and ask 'em how they got that way.

Grease and Grime can't stand up against Lava's pumice-filled lather more than 58 seconds. And the hardest water can't discourage it.

PROCTER & GAMBLE
Cincinnati, Ohio

AMERICAN FEDERATIONIST

Official Magazine of the American Federation of Labor

WILLIAM GREEN, Editor

EDITORIALS	*William Green*	
Uncle Sam's Employees		145
To Organize the South		146
Finding Work		148
Doctor of Humanity		148
How the Union Works		149
Intelligence vs. Panic		150
Answer Carefully		151
The Right to Join a Union		152
Working for Efficiency in Uncle Sam's Business	*Luther C. Steward*	154
Where We Are and What We Do	*Gertrude McNally*	160
The Workers at the Bureau of Standards and Their Work	*Dr. George K. Burgess*	164
The U. S. Veterans Bureau and Its Work	*Brig. Gen. Frank T. Hines*	170
Building Up the Nation's Forests	*Charles E. Randall*	175
Federal Employees Who Make the Money	*Herbert S. Hollander*	179
Keeping the Lighthouses	*Lee R. Whitney*	184
American Labor as Seen by a French Workman	*Eleanor Bushnell Cooke*	187
Uncle Sam Guards the Borders	*Harry Hull*	191
Labor's Principles of Scientific Management	*Geoffrey C. Brown*	194
Engineers Work on River and Harbor Improvement	*Dwight F. Johns*	196
Standardization in Public Personnel Administration	*Lewis Meriam*	200
Committee of Fifty on Scientific Research	*A. F. Woods*	206
The Weather Bureau and Its Service to the People	*Charles F. Marvin*	210
United States Customs Service	*F. X. A. Eble*	215
Federal Employees in Foreign Countries Organize	*W. G. Voss*	219
Labor and the Press	*A. L. G.*	224
The Biological Survey	*Paul G. Reddington*	226
Activities of the Bureau of Animal Industry	*John R. Mohler*	230
Office of Indian Affairs	*Lewis Meriam*	234
We Scrub for Uncle Sam	*Jane Washington*	242
Unemployment in Trade Unions		243
Facts You Ought Not to Miss		245

Entered at Washington, D. C., post-office as second-class matter. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 11, 1918. Published by the American Federation of Labor, Washington, D. C. Twenty cents a copy, $2.00 a year.

FEBRUARY, 1930, VOLUME 37, No. 2

Mr. Happy Man Says:

It Pays to Demand Atkins Silver Steel Saws

On thousands of jobs where expert craftsmen are making things for humanity —in busy shops, mills and factories where precision and speed are demanded—you'll find Atkins Saws and Tools, for wood or metal, working easier, quicker and better. —*Demand Atkins.*

Two Books on Saws—FREE

"Saw Sense" shows Hand and Small Saws and how to fit them, while "Mill Saws" illustrates the small circular saws, dado heads and groover saws for power-operated machines.

Send 25c for high-grade nail apron and useful souvenir.

E. C. ATKINS & COMPANY
429 S. Illinois Street
Indianapolis, Indiana

Please send me your free books, "Saw Sense" and "Mill Saws."

Name_____

Address_____

My dealer is_____

Finest Saw made. Silver Steel Ship Point blade. Perfection handle.

Rigid Silver Steel blade. Apple wood handle. 8 to 18 in. lengths.

Circular Rip Saws for fast, smooth, accurate work on any machine.

The simple, easy way of cutting grooves from ⅛ inch to 4 inches wide.

Nickeled Steel adjustable frame. Non-Breakable or Silver Steel Blade.

A perfect file for every purpose. Silver Steel quality makes faster, easier cutting.

UNIV. OF N.

WEST VIEW OF "THE CAPITOL" *R. P. Tolman*

AMERICAN FEDERATIONIST

LABOR · OMNIA · VINCIT

WILLIAM GREEN, Editor

VOL. 37 NO. 2

FEBRUARY 1930

THE biggest business institution in the United States is that through which Government work is carried on. This business institution attends to widely diversified activities which concern directly various phases of life and work. In the administration of public business are problems functionally similar to those of private business. One of the most important of these problems is employer-employee relations. As a major proportion of Government business is service, morale is an essential element in the vast army of 593,262 workers. Government business is far flung and many activities cannot readily be supervised. A spirit of co-operation in achieving the Government's objectives is an invaluable asset.

Uncle Sam's Employees

Public business institutions differ from private in that the employer is the public represented by political agencies. Terms and conditions of employed are usually prescribed by Congress guided by the counsel of the executive branch. Executive orders are used to define management policies. Because of the indirection of controls and the absence of contacts between employees and those in administrative offices, there is danger of autocratic

policies and bureaucratic methods in an institution as big as our Federal Government departments and agencies.

To protect themselves against arbitrary executive orders and to supply Congress with information based on experience in doing Government work, Federal workers were organized into unions. Federal employees see and know many things of significance that never reach the attention of executives. The only way that this information can be handed on in a dependable and efficient way is through organized channels.

Organization of Federal employees occurred first in Government production work, where workers joined the unions operating in private industry. Organization in the executive departments began in the mail service where four organizations were formed and later affiliated to the American Federation of Labor: Railway Postal Clerks, organized in 1891, affiliated 1917; Post Office Clerks, in 1884, affiliated 1906; Letter Carriers, in 1889, affiliated 1917; Rural Letter Carriers, in 1903, affiliated 1920. Finally in the executive departments the Federal employees organized in local unions directly affiliated to the American Federation of Labor. In 1917, these unions were granted a charter under the title of National Federation of Federal Employees. This organization has steadily increased its membership, its services to its membership, to Congress and to the executive departments. It includes members doing all types of work, from the charwoman to the scientist. It seeks to get adequate incomes for those engaged in common labor and the scientists who are paid far below the salaries in commercial undertakings and educational institutions. It seeks to promote better personnel policies and agencies for the United States Government. It advocates uniform work conditions respecting vacations and sick leave. It works with technical groups in the gathering and analysis of experience in Government work.

This issue of the AMERICAN FEDERATIONIST presents accounts of achievements in the National Federation of Federal Employees Union and description of representative work carried on by Federal agencies. The field, of course, is too wide to be covered completely.

To Organize the South

In Charlotte on January 3, was held the conference that initiated a campaign to teach Southern industrial workers how to establish and maintain industrial rights and to become contributing members of a producing group. Life in an industrial community and factory work are new to most Southern workers. They have not learned the value of their work or what they have a right to expect. They have not learned how to handle problems of work relations.

Most are accustomed to country life and direct relations with those who employed them. In the factory all these relationships become indirect. Owners and management appoint representatives to act for them. Wage-earners have come into work relationships where individuals work together but only a few of them realize they must learn how to act together as workers. "Acting together" implies organization and the selection of representatives to speak for them.

Our campaign therefore seeks to show Southern workers how to help themselves. This means to help them to stop drifting along, accepting such work opportunities as may happen to come and to become directors of forces and conditions so that they may have a voice in determining conditions under which they live and work.

Birmingham, Alabama, was chosen as headquarters for this campaign as it is the center of diversified industries and easily makes connections with other sections. A committee of three appointed to direct activities consists of Paul J. Smith, organizer of the American Federation of Labor and a member of the United Mine Workers; W. C. Birthright, Vice-President, International Union of Journeymen Barbers and Secretary-Treasurer Tennessee State Federation of Labor; Francis J. Gorman, Vice-President, United Textile Workers of America. Twenty-six national and international unions have assigned organizers to participate in the campaign and local labor organizations will co-operate. There is already a frame work of organization in Southern States. There are organized in the South 160 central labor unions, 15 State federations of labor, and 6,366 local unions.

Southern workers' earnings average $522 a year below the rest of the country and hours are 10 to 12 a day as compared to the 8 or 9 hour day prevalent elsewhere. The effect of low wages in hampering the growth of Southern trade and industry is shown on page 246 of this number. If Southern workers received wages equal to the rest of the country they would have $787,000,000 more per year to spend for industrial products. The resulting increase in business alone would enormously further Southern prosperity. The improvement in living standards would mean a higher citizenry throughout the South.

Few realize the immense human waste which is now going on in Southern industry. When workers are treated as "hands" and when they are ground down by low wages and long hours and arbitrary conditions which often work against their welfare as human beings, they cannot give their wholehearted co-operation in work processes. The good will and intelligence of the work force is worth millions of dollars to employing firms. So employers who have co-operated with trade unions have discovered. Union organization in the South can raise Southern working and living conditions to higher levels and place Southern prosperity on a surer basis.

Finding Work Though seasonal fluctuations in industry bring an increase in those looking for jobs, business depressions still add their quota of unemployment and technological unemployment continually adds to these numbers, there is no serious effort under way to provide an adequate efficient employment service. Many have no recourse except to private agencies to which an endless process of unemployment means profits. The unemployed often haven't the money to get even such information as the private companies supply.

There may be work opportunities at hand, but the jobless man has no way to know. Employers may need workers and they may have a conscience about broadcasting an advertisement that will bring workers they cannot use and thus work a hardship to those workers and the community. It is to the advantage of national prosperity that we manage the business of connecting workers with employment opportunities in the most efficient way possible.

Obviously there should be municipal employment services which clear through a central Federal agency. Work toward this end can begin with two courses: local efforts to secure better municipal employment services and the enactment of Federal legislation.

Every individual labor union has a responsibility with regard to the local agency. The co-operation of progressive groups and individuals can be secured. It is important that every central labor union undertake this responsibility for helping your unemployed find the jobs available.

Doctor of Humanity Upon the twentieth anniversary of his selection as President of the Baltimore and Ohio Railway, the employees of the railroad through their trade unions, gave a dinner in honor of Daniel Willard and presented him with a testimonial of their respect and esteem. The testimonial took the form of an honorary degree—doctor of humanity—signifying the distinctive quality of Mr. Willard's administration of this historic railroad as well as the dominating feature of the collective service which constitutes the railroad's function.

Railroad business under Mr. Willard's administration consists of a series of problems, and those in nearest contact with these problems contribute of their experience and ability to their solution. The spirit and method of co-operation which characterizes the shops and offices of the Baltimore and Ohio extends to its operating service and to all its relations with the public. In short, this railroad is conducted as a public institution and the cornerstone on which its structure rests is co-operation between employees and management based upon collective agreements negotiated by representatives of both

groups. Such relationships insure justice and mutual confidence and produce satisfactory returns. What has been accomplished under union-management co-operation on the Baltimore and Ohio is concrete evidence that good business is not in conflict with humanitarian idealism and that mobilization of the creative capacities of all working together in an industrial undertaking, is the greatest asset of that undertaking.

The most enduring contribution which Daniel Willard has made to the Baltimore and Ohio or to industrial progress, is the principle of organization for work which he has sponsored and helped develop. He believes that industrial peace is the normal condition in business and hence has based principles upon practices suited to the purpose and spirit of peace. He recognizes that unions are normally constructive agencies and he has made it possible for them to function as partners in work problems.

Unions also are public institutions which contribute to industrial development and the making of public opinion. In honoring a man who is a great public servant, they hold up for general consideration the principles of human relations with which Daniel Willard is identified and which have made his labor policies known throughout the world.

How the Union Works

The main purpose of the union is to give workers a representative agency in dealing with work problems. Work problems can be solved only by getting all concerned to agree on a method of working them out. The activity of the union is directed primarily to getting agreements.

The union must first gather into its fold the majority of the workers so that it can truly represent what is in the workers' minds in order to assume responsibility for making an agreement for them to carry out. Unless an agreement expresses what the workers think is fair and what employers think is practical, those who enter into an agreement do their best to find a loophole or to end the contract.

The union must constantly help workers to see what they need and how to get it. It must help workers to see how the union will help them to better business policies. It must supply union members with the information necessary to make decisions. It must be able to martial the facts that will prove the union's case to employers.

The main agency of the union is the conference method—talking problems over so that each understands what the other thinks and why he thinks it. This method discloses points of difference on which further discussion brings a working agreement—usually a com-

promise. In time this agreement is reopened, new agreements considered and usually a better agreement reached.

Some times, when conferences are not successful, one side or the other may make such a hostile move that a strike results. Strikes are costly experiences to both sides. After they are ended—the work agreement must still be negotiated before satisfactory work relationships can be established.

A strike is like war—to be feared and avoided if humanly possible. It is a destructive episode which interrupts orderly progress.

After an agreement has been agreed to, the union has a continuing responsibility for seeing to it that workers carry out their part and that employers do not violate its terms. The work contract guarantees to workers definite conditions and standards of justice and creates a shop or mill spirit that makes for better and larger production. Workers begin to have concern for their work and to put thought and energy into it. Then the union begins to develop new constructive functions.

One development leads to others.

Intelligence vs. Panic

Panic psychology has been responsible for many unnecessary layoffs and wage cuts. Impetuous employers, frightened by news of the stock crash assume that a depression is in the offing and immediately use the old-time first resort for retrenchment. Liquidation of labor seems to them the quickest and easiest way out of the difficulty, but in reality it is a way into further difficulty. Not only does unemployment add to depression, but employers who disorganize their work forces are at the greatest disadvantage when production opportunities reappear.

Intelligent planning can keep work forces busy during depression in a number of profitable ways and economies can be made without destroying the wage-earners' confidence through wage cuts. Fortunately the number of firms who lose their heads over a stock exchange crash is growing smaller. Many firms are successfully tiding over this year's recession without layoffs or wage reductions. They attempt to give employees steady work and to maintain a stable work force. One railroad co-operates with the shop unions to budget work, men and materials. Some concerns use slack time for repair work and are thus ready for full production when trade picks up. Others have trained their work forces for several different jobs, and can shift to other work.

Progress in stabilization this year shows what can be done when executives put their minds to work. Comparing the recession this

year with 1924 we find the following interesting facts. The recession in manufacturing production has been about as great this year as in 1924, but over three times as many wage-earners were laid off in 1924 and the decrease in earnings was more than twice as great. The figures, computed from reports of the Bureau of Labor Statistics are as follows: In 1924 about 1,100,000 wage-earners were laid off; last year to November about 346,000; in 1924 earnings of wage-earners dropped 8.3 per cent, last year 3.7 per cent (to November).

Not all industries have shared in the effort to keep wage-earners employed. While intelligent employers are making efforts to stabilize, many less resourceful are still resorting to the crude methods of layoff and wage cuts which cause so much suffering to wage-earners. In the automobile industry, for instance, attempts to adjust production schedules gradually without disorganization of work forces have been noticeably absent. Over 195,000 wage-earners have been laid off since the April peak, more than one-third of all those employed.

Irresponsible scrapping of work forces to this extent, however, has been the exception and not the rule. Because wage-earners have been employed and wages maintained to a far greater extent than is usual in depressions, wage-earner buying has continued to uphold the retail market. While many expected the holiday trade this year to be seriously damaged by the stock exchange crash, actually it was only very slightly (1.8 per cent) below last year. We have had a striking example of the direct effect of wage-earner buying power.

Answer Carefully The census of unemployment to be taken on April 1 of this year is of the greatest importance to all wage-earners. This will be the first time an actual count of all those unemployed in the United States has been taken and published. It will give information never before available, which will be of value in dealing with problems of unemployment. Organized labor has given this measure continual support and our efforts are largely responsible for the passage of the bill providing for an unemployment census.

The value of the information gathered will depend largely upon the accuracy of the answers given by wage-earners or their wives when the census enumerator calls. Trade unions can be of the greatest assistance in this national service by instructing their members how to answer.

The unemployment census is part of the census of population taken every ten years. When the enumerator calls he will ask a number of questions such as age, nationality, birthplace, education, etc., of all those living in the same house or apartment. All these questions are important and union members are urged to see that

they are answered correctly. This is the only way we have of finding out these essential facts about the country's population.

There are three questions which refer to your work and are therefore especially important to wage-earners. Labor organizations will refer to them for information for the next ten years and longer. They are as follows:

1. What is your trade?
2. In what industry do you work?
3. Were you at work the day before the enumerator called?

The following suggestions will help you to see that your answers are recorded accurately. The first question should be answered by giving your trade, such as machinist, weaver, printing pressman; the second by giving the industry in which you work, such as shipyard, cotton mill, book and job printing establishment. It is of the greatest importance to make sure that the enumerator gets the answers to both these questions accurately. The third question, "Were you at work yesterday?" should be answered yes or no. If you were not at work, answer no, no matter what was the cause. You will then be counted as unemployed and your name placed on a second questionnaire giving the reasons for your unemployment. These questions should also be responded to with the greatest care.

If the census enumerator calls on a work day, as he probably will do, and you are at work, your wife or your landlady will have to answer the questions for you. You should explain the correct answers carefully on the day before April 1, so as to make sure there will be no mistake.

The unemployment census is a count of all who were not at work on one day. While it would be useful to have the count cover a year, past experience shows that it is not possible to get accurate information for so long a period. The Census Bureau is doing all in its power to assure an accurate count of the unemployed, but they must depend on wage-earners for the information.

The Right to Joint a Union

As a theoretical question practically everybody will agree that a person who works for wages has a right to join a union or any other legal organization. But when an industry faces a situation in which its employees are joining a trade union, some managements begin to qualify such acceptance, while others say, "Of course you have a right to join, but if you do, you lose your job."

Now, if the right to join a trade union is a bona fide right, the employer who nullifies that right by penalizing the person who exercises it, is limiting the freedom of those who work for him.

There are two positions, and only two positions, one can take with regard to trade unions—either they are constructive institutions, promoting progress, or they are not.

There are few persons who seriously question but that unions have many social and economic achievements to their credit. Because they are independent organizations, whose backbone the employer cannot cut at will, they have been the champions of a numerically large underprivileged group whose rights had not been written into law and for whom there were no accepted standards of justice.

The trade-union movement has raised itself from an outlaw to a legal status and has secured the enactment of much protective legislation. It watches out for the educational opportunities of wage-earners and their children—that they may share in intellectual progress. It has steadily reduced hours of work so that this great group may conserve its physical vigor, have opportunity for home life and leisure, for study, for participation in civic and political duties and opportunities. It has steadily raised standards of wage payments so that wage-earner's incomes would permit higher standards of living, better homes, wider opportunities for the whole family.

The trade-union movement has sought to provide its members with securities against the emergencies of life. It has advocated State and Federal fact-gathering agencies so that the data indicating labor trends might be available. It has advocated workmen's compensation laws; laws to give children an opportunity to get an education before beginning work; laws to protect working women. It has sought to protect employees of the Government as well as those in private industry.

The trade-union movement has been the great trail-blazing agency that has cleared the way for wage-earners to move forward.

The trade-union movement is the only agency that is truly representative of the wage-earner's experience and need.

The trade-union movement believes that the interests of all industrial groups are interdependent—that a prosperous industry can afford to pay high wages, that economical production makes possible still higher wages, that wage-earners can help greatly in preventing waste of materials and finding more economical methods of production. It believes that higher incomes for all make more buyers of things produced. It believes that sales policies should be developed so as to stabilize employment for workers. It believes unemployment is a great social and economic evil and that everything possible should be done to regularize production and advise workers of all available work opportunities.

Surely these are worthy social achievements and purposes.

The employer who denies his workers the right to belong to a trade union stands in the way of social and industrial progress.

WORKING FOR EFFICIENCY IN UNCLE SAM'S BUSINESS

LUTHER C. STEWARD
President, National Federation of Federal Employees

THE National Federation of Federal Employees was founded by men and women employed in the civil branch of the United States Government who were interested not only in their individual well-being and that of their fellow workers but were also imbued with the sincere desire that the Federal Government of the United States should be the best-operated as well as the biggest business in the world. In the advancement of this project there was embodied in the Constitution of the National Federation of Federal Employees when that organization was formed in the council chamber in the American Federation of Labor Building on September 24, 1917, the following statement of objects and methods:

Harris & Ewing

LUTHER C. STEWARD
President National Federation of Federal Employees

ARTICLE II
Objects and Methods

Section 1. The objects of this Federation shall be to advance the social and economic welfare and education of the employees of the United States and to aid in the perfection of systems that will make for greater efficiency in the various services of the United States.

Sec. 2. The methods for attaining these objects shall be by petition to Congress, by creating and fostering public sentiment favorable to proposed reforms, by cooperation with Government officials and employees, by legislation and other lawful means; provided, that under no circumstances shall this Federation engage in or support strikes against the United States Government.

Sec. 3. With a view of co-ordinating the energies and influence of all Federal employees in support of our aims, we strongly urge them and all national organizations of Government employees to affiliate to the American Federation of Labor to secure complete cooperation and cohesive action of all interested in the common cause

under one joint jurisdiction. We who drafted this instrument which was unanimously adopted by the delegates to this first convention and which has continued unaltered as part of the organic law, entertained the conviction that improving the machinery of our Federal Government and the efficiency of its operation was one of the best possible ways of improving the conditions of employment of the vast army of civilian governmental workers. We also held the belief that our objectives must be obtained through the creation of favorable public opinion through a clear demonstration of the merit of our proposals, and that our relation to our employer definitely precluded the use of the strike, even as a last resort, in the accomplishment of our aims. We also held definitely to the view that as workers, both mental and manual, our interests were identical with the workers in other fields of employment and that our place was in the American labor movement as typified by the American Federation of Labor.

Conditions for civilian workers of the Federal Government at the time of the formation of the National Federation of Federal Employees were chaotic in the extreme. The activities of the Federal Government had grown at a much faster rate than the population of the country due to an increasing tendency toward centralization, but no comprehensive plan had been adopted or even formulated for handling Federal personnel matters with business-like uniformity in the interest of the general public, of the Government, or of the employees. There had been no general revision of the pay scales since 1854; new Federal activities were usually brought into being without regard to existing titles or pay rates, and in many departments the average employee was in a blind alley with little or no chance of advancement. Although there had been more or less agitation for the adoption of a retirement system for civilian employees of the Federal Government, little progress had been made. The various departments and services were encumbered with superannuates unable to perform their allotted tasks with any degree of satisfaction but kept on the public payroll because of the wholly natural and humane disinclination of executives to put them out in the street with no provision for their declining years after a lifetime of toil and inadequate compensation.

The employees themselves had been forbidden to organize until the adoption of the Lloyd-LaFollette amendment attached to the Post Office Appropriation Act, approved August 24, 1912. This amendment, sponsored by the American Federation of Labor, opened the door for collective action by the employees.

The National Federation of Federal Employees is absolutely unique. There is no labor organization anywhere in the world that covers the variety of occupations and the diversity of conditions that our organization does. When people inquire as to the scope of our jurisdiction and the variety of problems confronting us, they are amazed, and their first comment is: "We don't see how you ever have an organization. We don't see how you can bring so many different kinds of people over such a

large territory into a coherent organization." It was a thing that was considered almost impossible.

We are now a going concern and have been for a number of years. We have no fears as to the stability of the institution. The late President Gompers and Secretary Morrison, after we got going as a national organization, expressed themselves more than once as believing at the time our charter was granted that we would not much outlast the war, that we were a sort of mushroom growth during that period of stress and excitement, and as soon as things in the Federal Government got down to some near approach to usual conditions that we would fade away and disappear. But they were very glad that their prophecy was unfulfilled.

In the early days to attempt, as we did, to interest employees of the navy yard and stations in the troubles of the employees of Indian schools, or to go among a group of employees of the Forest Service and tell them about grievances in the Customs Service, was a difficult proposition, but we hammered away, driving home the idea that there was an identical interest.

These employees were paid from a different appropriation, in a different department, in a different locality, and in different services, with different laws to enforce, different kinds of employment conditions. And yet in the last analysis there was but one employer—the Government of the United States. There was but one source of authority, determining not only the wages but the working conditions and all other things that make up the job, and that was the Congress of the United States; and there was one man who was at the head of this big business—the Chief Executive of the United States. So, no matter how far removed a job or a service might be from the seat of Government, or how many steps had to be gone through to get from the individual employee back to the source of authority, nevertheless, they were all alike in many respects.

They were all the victims of neglect, prejudice, indifference, or any of the many other things that affected their wages and working conditions. Gradually that thought began to sink in. It began to fix itself definitely in the minds of this diversified group scattered halfway around the face of the globe. They began to see concrete examples where the employees in the Quartermasters' Department in Manila or the employee in the Lighthouse Service off the Maine coast had certain things so exactly similar that if relief of a general character could be granted along certain lines it would affect them all. Then, of course, with the age-old lesson of collective action, of multiplication of strength where human beings cease to work as individuals and band themselves together for one common purpose, the need of organization became apparent.

Then as time went on the lesson sank in deeper and deeper, although it took a great deal of economic strength sufficient to interest the lawmakers—the Congress of the United States—to enact the necessary remedial legislation. It was demonstrated that no one group could arouse that interest in the minds of the national legislators that could be brought

about so well when a large number of the constituents of those Senators and Representatives were directly affected. It brought home to their Representatives in Congress that those upon whom they depended for votes were vitally interested.

And so, year by year, it was possible to knit more closely together an effective national organization. Like every new organization, where the need for such an organization had been of long standing and over-delayed, we had to do something that is always difficult—that is, to build the factory and make the tools while producing something. That is what the National Federation of Federal Employees had to do from the start and there was one tremendous load of things that required doing at national headquarters.

We have not as yet run out of grist. If our entire legislative program should, through some legislative magic, be enacted to our entire satisfaction before the adjournment of the present session of Congress, we would be more or less gratified; yet we would probably say: "What are those 57 things we take up next?" It is like a cold-storage plant where, when you run out of the stock that is out in the open, you can always go back and get unlimited things out of the storage, things that ought to be done, that must be done, that will be done just as soon as we can clear the stage with those pressing things that have been declared paramount. So let no Federal employee delude himself that the millenium has arrived.

For a good many years I suppose we at national headquarters could very justly be termed "nuts" on the subject of reclassification. I have talked to audiences from Federal employees from all over the country on the subject of the necessity for job classification, and they discussed the technical part of reclassification and many times the impression was: "Why don't they stop talking about classification and tell us how we can get some more money?"

The National Federation of Federal Employees has been instrumental in getting something like $383,000,000 out of the Treasury added to the pay envelopes of Federal employees, but the reason we harp on the necessity for classification is this: It was absolutely essential that a system, a framework, a piece of machinery be set up so that when appropriations were made money would go to the various employees in accordance with the work they were doing so that they might get their just desserts. Without that quite elaborate framework being set up, it could be possible to secure but very little appropriations from Congress.

Without a system of classification such as we have been battling so persistently for all these years, one that will describe the work performed in each and every position in the Federal service, and attached to those descriptions compensation ranges—without a system of that sort, to attempt to cure salary conditions, to attempt to secure and to insure the maintenance of fair, adequate rates of pay for all Federal jobs would be just as difficult and just as unsatisfactory as to attempt to cure a very bad case of smallpox by the local application of some sort of salve or ointment.

Classification was begun but was

tossed on the scrap heap to avoid spending money. There was no decision on the merits of the case. It was simply that the legislators did not propose to spend the money and it was anticipated that if facts were assembled and presented to Congress of the work performed by employees in the field service it would mean increased compensation. It was an arbitrary exercise of power and employees were short-changed. But we didn't give up.

Overlapping grades were jammed in as part of the compromise that was forced on us, and we had to determine just how much of the cargo we could afford to jettison and still make progress. That was the idea of some persons who were then in a position to impose certain conditions who didn't know anything about classification at all. It is possible with overlapping grades for an employee to go into a higher grade and find himself demoted in salary.

In judging the importance to Federal employees of the enactment of the Welch Bill into law, the amount of increase in salaries of employees both in the District of Columbia and the field is important. The marked development of a more enlightened public opinion as to Federal personnel conditions and a recognition of the necessity for improving such conditions is even more important; but from the standpoint not only of Federal employees, but of the people of the United States who own and control the machinery of the Federal Government, the feature of outstanding importance in the Welch Act was the mandatory provision calling for a survey and collection of facts to form the basis for intelligent personnel legislation. The Classification Act of 1923 contemplated just this. The purpose of that act was defeated by the arbitrary misuse of power by certain high-placed influences.

The National Federation of Federal Employees fought for five years to establish the principles of classification which it knew to be fundamentally sound, and the Welch Act is the emphatic endorsement by the Congress of the United States of the principles of personnel legislation for which our organization has consistently stood and the repudiation of those who attempted to retain by arbitrary methods, schemes of personnel administration which would perpetuate manipulation, favoritism and even fraud. The National Federation of Federal Employees has not changed one whit in the position it has always taken as to the principles of classification and of personnel administration. We have succeeded, however, in bringing those who were most bitterly opposed to the principles which we espoused to seeing eye to eye with us, and with the accomplishment of this notable conversion have reason to feel very optimistic as to the future development of practical personnel policies for Federal employees with official cooperation.

The foundation of a business-like system of personnel administration in the civil service of the Federal Government was laid through the passage of the Classification Act of 1923. This measure, although limited in its scope to employees within the District of Columbia, provided for schedules of compensation based upon the work performed by an employee, with

standardized ranges of compensation and providing for equal pay for equal work, regardless of sex, thereby removing the discriminatory differential which had always very generally operated against women Federal workers.

The Classification Act of 1923 was drafted by the National Federation of Federal Employees, much of the research work and technical studies was financed by our organization due to lack of available public funds for the purpose. The National Federation of Federal Employees furnished the motive power for putting the law on the statute books, so that this excellent beginning to secure improved standards in the Federal service for handling personnel matters in a business-like manner and providing methods by which better service can be given to the public at large, is the product not of executives or legislators but of the organized Federal employees themselves and constitutes a distinct contribution to the public.

In its attempts to secure better conditions for Federal workers, the National Federation of Federal Employees has tested each legislative proposal, with the aid of the best technical advice available, in order that its economic soundness might be determined in advance. As an organization we insist that employment conditions in the Federal service should be abreast of the best approved employment practices. As the human cogs in the great Federal machine, we are also citizens, with the interest of our country at heart, and we have not advocated, neither shall we advocate in the future, any measures that are not in the last analysis in the interest of the general welfare.

As we stand on the threshold of far-reaching changes in the conditions of employment of Federal workers, the enactment of legislation which will establish a real Federal personnel policy in respect of wages, hours of labor, and general working conditions, is no longer a faint, distant hope but a robust reality. As always, the solution of the difficulties of Federal employees rests in their own hands. It needs but courage, loyalty and a sincere spirit of cooperation to accomplish through their organization every one of their legitimate aspirations.

I find the great thing in this world is not so much where we stand, as in what direction we are moving.

OLIVER WENDELL HOLMES

WHERE WE ARE AND WHAT WE DO

GERTRUDE McNALLY
Secretary-Treasurer, National Federation of Federal Employees

WE "are" very nearly everywhere, and what we do is embraced within approximately 2,000 separate occupational titles. We have 361 local unions of the National Federation of Federal Employees, distributed in every State of the Union, in Alaska, Porto Rico, the Philippines, Hawaii, Panama Canal Zone, and in Europe. Our local union in Paris, France, is headquarters for Federal employees located at the various embassies and consulates throughout the European continent as well as those in the South American countries.

Clinedinst Studio
GERTRUDE M. McNALLY
Secretary-Treasurer, National Federation of Federal Employees

Our largest local union is in Washington, D. C., and our smallest is in Schurz, Nevada. In Washington there are ten local unions, one composed of colored workers, one of women employees in the Bureau of Engraving and Printing, another of men employees in that same institution, one composed of the employees of the municipal government of the District of Columbia, and employees in the War Department, the Treasury Department, the Bureau of Standards, the Washington Navy Yard, and St. Elizabeths' Hospital.

Each have their separate local unions. Employees of the departments not represented in the foregoing are within the jurisdiction of our largest local union, No. 2. For the purpose of consideration and action on matters affecting all employees within the District of Columbia, these local unions have formed the District of Columbia Federation of Federal Employees Unions. Six delegates and three alternates from each of the ten unions comprise this District Federation, and it is through this group that the national office carries on its organization work within the District of Columbia.

The "field" services comprise all of the Federal activities outside of the District of Columbia, and the interests of the various members of field services are cared for through one local union in each city or town.

Local Union No. 4, which has jurisdiction throughout greater New York, conducts its business through service branches and has a delegate body to carry on the further work of the local union. In the smaller cities the business of the local is all transacted at the one general meeting.

At the time the National Federation of Federal Employees was formed in September, 1917, there were present at the call of the American Federation of Labor 47 delegates from 33 local unions of Federal employees. At this convention there were 70 local unions in existence. At the last convention of the National Federation of Federal Employees held in September, 1929, at Saulte Ste. Marie, Mich., there were 345 local unions. One delegate came from Alaska, where organization work has to be carried on, as he explained, by reaching some places on dog sleds and other places where only airplane will transport the organizer. On the other hand, a delegate from West Virginia, whose local union is composed almost entirely of Lock and Dam employees, told of carrying on his organization work by skiff, automobile, bus, and train. Then, skipping to Arizona, we find local officers required to cross much of the desert country before reaching the scattered employees of the Federal Government.

What we "do" can hardly be described within the space allotted to this article. Federal employees may be found in every section of the country, in fact, in every part of the world, engaged in numberless occupations. They guard the public health, not only through the United States Public Health Service, which enforces the quarantine laws, devises means of suppressing epidemics, collects and publishes information concerning diseases and maintains hospitals, but also through the Bureau of Animal industry of the Department of Agriculture, which Bureau is charged with protecting the livestock and meats of the United States, so that no meats are permitted to be placed on the market unless stamped by the Federal meat inspector to show that the product is fit for consumption. The public health also is protected through the Food, Drug and Insecticide Administration of the Department of Agriculture, which enforces the pure food and drug laws and the Tea Inspection Act, and causes to be removed from trade channels all products failing to comply with the laws which it enforces. The primary function of this service is to protect the consuming public.

Through the Treasury Department we collect all the taxes and we make the money. We protect the coasts and save lives and property at sea. We collect the import duties, prevent smuggling, and administer the National Prohibition Act. Through the War and Navy Departments we provide the second line of national defense and train the men who direct these activities. Through the Department of Justice, we operate the Federal penal institutions and supervise fingerprint operations. Through the Department of the Interior we examine and ad-

judicate pension claims for service men excepting for the World War period, which is the function of the Veterans' Bureau, and administer the Federal Retirement Act.

We operate schools and hospitals and sanitoria for the Indians of this country and have charge of their lands and monies and the promotion of agricultural work among them. We operate the General Land Office and the Geological Survey, which classifies public lands and examines their natural structure, mineral resources and products. We construct dams for irrigation and have charge of operation and development of irrigation projects in the arid States. We maintain, improve and protect the National Parks and National Monuments and when you visit one of the National Parks you will probably be entertained by members of the National Federation of Federal Employees with descriptions of the natural beauties of these show spots of the national domain.

Through the Department of Agriculture we prepare and circulate information developed by the scientists and field workers of the department on the subject of agriculture, weather forecasting, dairy products, plant industry, chemical investigations, history and habits of insects, birds, game and wild animal life of all kinds, and we study all problems relating to home, including questions of food, nutrition, economics, textiles and clothing. Through this department we also minister the national forests and protect them against fire and other dangers.

Through the Department of Commerce we take the census and furnish to the public statistical information on the subjects of manufacture, agriculture, production and distribution of all of the Nation's wealth, the public debt and taxation. We operate the national fish hatcheries and distributing stations, promote the economic use of the catch from lakes and rivers. We survey the coasts, we enforce navigation laws, we study methods of producing, treating and utilizing ores, mineral oils, gases and other mineral substances, so as to prevent waste in mining industries and safeguard the health of the miners. We register trade-marks and issue patents. We inspect all vessels so that every safeguard is drawn around water transportation, and when you see the flash of a lighthouse you know that some Federal employee is keeping his lonely vigil so that your travel may be safe. This department includes the Bureau of Standards, where we conduct investigations and test materials and act as the custodian of the official standards of measurement.

Through the Department of Labor, we collect and publish information concerning labor conditions and methods for their improvement, and we investigate and very frequently settle controversies between employer and employee through conciliation. Through this department we do the very important work of child welfare, and through the Women's Bureau we develop standards for employment of women and investigate conditions surrounding them in industry. We handle immigration and the naturalization of

foreign born, and operate an employment service without cost to those who use it.

Through the independent establishments in the Federal service we do many other things, foremost of which, perhaps, is taking care of the soldiers' relief activities for veterans of the World War, recruiting employees for Uncle Sam, caring for them when injured in line of duty, auditing all accounts of the Federal Government, operating an immense printing office, regulating interstate commerce, making tariff studies, doing research work, maintaining the public buildings and public parks in the National Capital, and operating the Panama Canal.

The National Federation of Federal Employees has made great strides since its organization, and a detailed statement of its accomplishments appears elsewhere in this issue. Its legislative aims may be summarized in the following program:

Adoption of a salary schedule in the Classification Act, providing a minimum rate of $1,500 per annum for all full-time adult workers, and corresponding increases for positions requiring greater degrees of skill and experience.
Extension of classification to the field services.
Establishing a qualified central agency to administer classification and other personnel legislation.
Liberalization of the present Retirement Act, so as to provide greater annuities and optional retirement.
Abolition of the average restriction in appropriation bills.
A Civil Service Court of Appeals.
Standardized annual and sick leave.
One days' rest in seven.
Extra pay for night work and overtime.
Saturday half-holiday the year round.
Allowances for transportation when transfers are ordered.
Institution of proper methods of efficiency ratings.
Stated promotion intervals.
Extension of the Merit System, and other efforts designed to improve general personnel matters in the Federal service.

We expect to make it possible for every citizen of the United States to ascertain readily what the employees of the Federal Government do, and the salaries paid for each position, by means of a "Dictionary of Jobs," which will show the title of each position, the duties performed, the qualifications necessary, and the salary rate attached.

The work in which the National Federation of Federal Employees is engaged is the greatest contribution to good government that has ever been made, and the employees, through our organization, are performing a patriotic service for which the people of the United States owe them a debt of gratitude. From a large number of uncoordinated activities the work of the Federal Government is being organized into one efficient, smooth-working business institution and this public service is brought about and financed by the National Federation of Federal Employees.

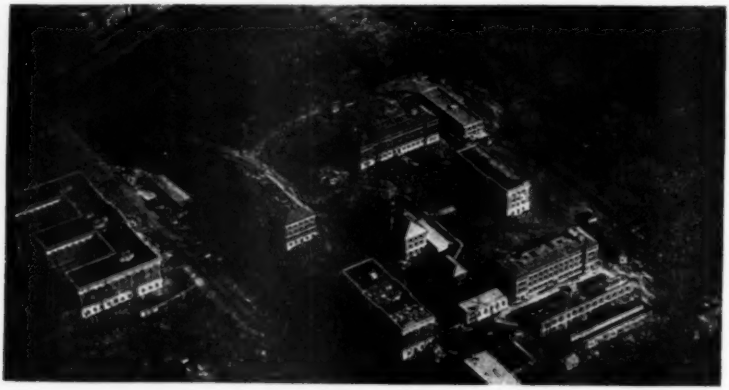
THE WORKERS AT THE BUREAU OF STANDARDS AND THEIR WORK

DR. GEORGE K. BURGESS, Director

"A CITY of science set on a hill" is a phrase applied to the National Bureau of Standards. Its score of laboratories is the home of some of the most interesting groups of workers in our Government. Scientists, laboratory artisans, commercial specialists, engineers, administrative and clerical employees—busy in the service of the nation—provide standards, standardization service and research for science, industry and trade. Their work ranges from how to build a house to such remote themes as measuring the temperature on the polar ice-cap of the planet Mars.

A remarkable aspect of the work is the great number of specialists. Here are dye researchers who specialize in the study of sensitization of photographic plates. Here is another who studies quartz disks and their properties, especially those useful in the control of radio frequency. Here is another who studies the behavior of air streams around objects which must encounter the air with speed, precision, or efficiency. Here is another group who specialize in determining the properties of steam. One expert devotes his time to determining the heat-insulating properties of materials. A laboratory is built for the study of the atoms, another for the study of the rays characteristic of the atoms.

The rise of scientific work in the Government during this century has been phenomenal. The Bureau of Standards has shared this development. Nearly a thousand workers in some sixty specialized groups in administrative duties, scientific research, and testing are actively engaged in the discovery of new materials, new processes, or new devices, perfecting them or the data concerning them



U. S. Bureau of Standards, Washington, D. C.

through laboratory research. However notable the equipment, it is the men and women of its staff who are responsible for the astonishing list of successful enterprises which flow from the Bureau of Standards' laboratories to promote the general welfare of the American people. From the beginning, the Bureau has emphasized the opportunity which the Bureau presents for the training of research workers.

From all over the Union the staff is recruited, apportioned according to population so that the civil service tends to be as representative as the House of Representatives. Likewise, from universities come trained men schooled in the finest research methods of science. Reaching the Bureau, these men have access to an unexcelled range of facilities and a notable library of physics, chemistry and engineering — 33,000 volumes and some 800 periodicals in these fields currently received. Advancement is open from the apprentice or sub-profession through all grades up to the directorship. Not only this, but the educational facilities offered at the Bureau out of hours and the opportunity offered the staff by local universities make the Bureau of Standards the real training school for scientific and other work. Courses after hours are organized, credits for which are given at the university counting toward higher degrees; also the local universities give courses after hours for the same purpose.

To tell the full story would give a romance and epic of achievement scarcely excelled by similar organizations. At the basis of scientific industry are the units and standards of measurements. Bureau workers develop new kinds of measurement. A group of laboratory workers test radium which is sold in the United States according to the strength certified at the Bureau of Standards. A crew of engineers carry the Bureau of Standards' test car from State to State in a nation-wide errand of standardization for the railroad track scales and the master scales upon the readings of which six billion dollars of freight rates in America are collected. This work assures fair dealing and mutual confidence between shipper and carrier. Steadily improved accuracy noted in large scales is evidence of the effectiveness of this work.

In the Bureau at Washington, precise weighings are made by experts whose task it may be to add another decimal place to the testing of weights which must govern the weighings of science, industry and trade. Here we see balances that must be read from adjoining rooms. Again, the balance must be made in the dark for some scientific purpose where accuracy must be assured to one part in a billion, in weighing crystals in quest of a possible flaw in Einstein's theory of relativity. Another may have to weigh an electro-deposit of silver with unprecedented accuracy as a basis for fixing the unit of electrical current, for the silver deposit is a measure of the electrical current which deposits it.

In other laboratories, workers measure the standards of light and heat and certify their corrections as a basis for shop standards in American factories. Accuracy in the countless measurements of industry has its birthplace and continued service in such groups of conscientious, skilled

young scientists. Here is an expert ruling linear scales using wave-lengths of light directly without any material standard, and doing it so perfectly that there is no perceptible error. A skilled glass worker may grind flat quartz disks of 11 inches in diameter without any error in the flatness as great as 1/5,000,000 inch. Few can realize the great skill and science exhibited in this achievement. The world does not know its value, nor the effort it requires. Expert men of science, however, do know how fundamental such accurate standards are in the new industries in which precise measurement is a supreme factor.

In a low, two-story building, are radio workers. One group of these ingenious young men is developing radio beacons to make safe the airways. Others are developing with unprecedented accuracy the quartz crystal control of radio frequency—the heart and soul of successful broadcasting and reception. A former chief of this radio laboratory invented the direction-finder which is the basis of today's radio fog signals and radio beacons which make navigation on sea and air safe. The service which this staff has put in radio and aviation cannot be measured in dollars.

A special staff of young women is checking the thermometers used to detect fever, doing their part to add to the dependable resources used in diagnosis of the sick. Here is another group whose task is to make sure that the measuring apparatus used by the chemist is accurate and suitable. They equip laboratories in chemistry and medicine with perfect tools for the measurements which safeguard the invalid or make sure measurements of the science upon which recoveries must depend.

In the optic laboratory, a group of experts is working to make sure the scientific foundations for measuring color so that a color description may not be a mere matter of chance opinion, but may be specified and obtained reproducibly in the thousands of commercial products where color is a factor of utility. Sealed samples of import sugars reach another laboratory. Here the experts control the accuracy with which sugar cargoes are analyzed in assessing the duty since our Government desires payment only on the pure sugar content, and accurate analyses are assured by this work.

In a nearby room are being grown new kinds of crystals and the conditions are studied for crystal growth. In the next building, metals are studied. The foundrymen are testing out different kinds of molding sand and perfecting processes of casting metals. Here is a complete steel mill with electric furnaces in which the workers can produce any metal or any alloy for research. Here are the rolls, drawbars, and hydraulic hammers which give shape and texture to metal parts. On the next floor the staff is using the microscope to photograph the polished metal surfaces and study the minute crystals, the size and form of which fix the quality of the metals. Some of these are engaged in finding why car rails fail, how a transverse fissure may wreck a train.

In some interesting shops highly trained and skilled laboratory artisans are at work,—glass workers, glass blowers, instrument makers, pho-

tographers, foundrymen and woodworkers. Many new scientific instruments are made for the first time in these shops from designs which the mechanician helps to perfect during the course of the work.

Air navigation owes much to Bureau workers on aeronautical instruments. Some forty instruments essential to perfect flying have been improved or designed by these experts. To them in part is to be credited the recent rise of instrument "flying"—air navigation based upon the readings of instruments rather than by observation. Such reliance is essential for flying at night in fogs. These workers also standardize the altitude records which the airplane instruments bring back from high flights. For a polar expedition it was desired to have a photographic sextant. Within the brief time allowed the technician assigned to the task produced a successful instrument which replaced direct observation of the sun's position.

A special group of experts has the interesting task of producing high-speed wind streams to study the behavior of such air streams passing models of skyscrapers, stacks, factory buildings and the like, and to study the behavior of parts of airplanes or models of aircraft in the wind stratum. Such careful observations and measurements are making aviation of tomorrow. They compare the results on models of stacks with those on full-size stacks.

In a far corner of the Bureau grounds a group of young men are at work helping to make the automobile practice of tomorrow. Four members of this group gave their lives in an important experiment which proved that low volatility liquid fuel could be used in automobile motors. Almost every phase of the modern operation is studied by the workers in this laboratory.

The industrial laboratory houses a small army of research workers. Here scientific men manufacture yarn, cloth, paper, rubber, glass, clay products, and the like, under controlled conditions. New processes are discovered. New materials are tried out and the American people profit by the discoveries. Small groups are scattered throughout the country—in the heart of the cement field a group is engaged in testing the cement for Government use. In Columbus there is a clay products laboratory manned with a technical staff busily at work on ceramics research. In other places electrical Bureau workers in the field are studying the disastrous effects of stray currents underground in destroying piping and other metal structures.

In the Bureau offices, experts are at work on codes of safety and practice. Successful work of this type has been done on codes for electricity, lightning, aeronautics, protection of the heads and eyes, interlocking systems, and others. These codes are in a sense a continuous nation-wide, life-saving service. They assure not merely the safety but in most cases adequacy of the service.

The staff of the Superintendent of Plant is an interesting group. Their task is to assure continuity and adequacy in a unique and complex set of piped and wired services—gas, compressed air, vacuum, high steam, exhaust steam, freezing brine, and a great variety of voltages and elec-

trical currents. To keep these circulating through a scientific village of twenty or more buildings scattered on a site of 43 acres is a 24-hour-a-day service by dependable, experienced men. The complex equipment for such services is indispensable in research. For its success much credit is due the staff in charge of the mechanical plant.

A small group, at work on the control of sound and elimination of noise, has devised means to make the interior of an airplane cabin relatively as quiet as a Pullman car. These experts have given public buildings good acoustical properties where they had seemed hopeless. A similar group is engaged in testing types of structural columns used in bridges, and in the design and building of giant skyscrapers. The great Hudson River bridges and the Camden will be the safer for the tests made at the Bureau laboratories. The designers and builders of these bridges were happy to receive the reports of the Bureau's experts as an assurance of adequate strength and stability.

In one of the newest lines, American industry is voluntarily simplifying the sizes and varieties of commercial products, saving hundreds of millions of dollars to the nation. Standards of size and quality are also being agreed upon by American industry. One writer has characterized the work of the Bureau staff in this headline, "To do the impossible is their job." Another headlined a descriptive magazine article, "House of a Thousand Wonders." Its workers are engaged on research problems on the frontiers of scientific advance. As they reach fruition the results are published by the Government and the 1,600 publications which have been issued are a monument to the industry of the entire staff, a monument which is more than a shaft of stone. It is rather a spirit of accuracy which in an enduring way pervades mechanical industry. The spirit of discovery through industrial research has been stimulated profoundly during the life of the Bureau. While practically no industrial research laboratories existed when the Bureau was established in 1901, today there are hundreds. The work of the Bureau staff has also been a stimulus to the establishment of similar institutions in other lands.

Only a few types of work can be mentioned and these examples are mere samples of other enterprises in which the workers of the Bureau of Standards are doing their part in perfecting materials, devices and processes which are the making of the material civilization of tomorrow. In fact all through the Bureau laboratories are men whose labors will become nation-wide practice in the industries and sciences of the future.

I can only mention the vast amount of correspondence, personal visits to the great industries, meetings of national societies, conferences held here and abroad. Through all of these are diffused the results of the Bureau's researches and testing. Through these in a great measure discoveries enter the factory and become permanent productive factors.

The work of some of the staff is so technical that the general public never understands. His appeal is to the industrial technician through whom his results become factors of industry.

Graduates of the Bureau have become heads of industrial research laboratories. One is chief of a great silk research laboratory; another is the head of a textile conditioning laboratory; another is just occupying a new laboratory building erected for research in oil; another heads up a large municipal testing laboratory; another has perfected a system of television. Today is an era of science and the Bureau aims to do its full part to bring new science to American industry. Its greatest contribution is to furnish methods of measurements and the measured controls which make industry most effective. In fact its early development of methods of precise measurement in such great variety was the occasion for the Bureau's active part in the industrial applications of such measurements.

The men who have made all this possible, many of them sacrificed wealth and position to carry on the work of the institution. Those of us who know the Bureau of Standards best from within believe that the workers here organized and at work, stand high among the builders of tomorrow.

In concluding this somewhat sketchy account of the Bureau workers and their work in the research laboratories of the Bureau of Standards, I may quote the appreciation of laboratories by Pasteur, a master mind in the field of scientific research:

"Take an interest, I beg you, in those sacred structures which we designate by the expressive term 'laboratories.' Insist that they multiply and that we adorn them.

"They are the temples of the future, of wealth and well-being. It is there that humanity grows, becomes strong, and becomes better.

"It is there that may be read in the works of nature, the works of progress and of universal harmony; though they may too often be those of barbarism, fanaticism, and destruction."

TO AN ENGLISH SPARROW

Ah! little sparrow, brown and drab,
Neglected and unnoticed,
Pray, does the redbird's gorgeous coat
Distress you the remotest?

When throbs the air with music rare
Of nightingales' love-making,
Does longing thus to woo your mate
Fill your wee heart with aching?

When white-winged sea gulls circle high
And sail far o'er the ocean,
Does restlessness possess you then—
The *Wanderlust* emotion?

Or does your jerky little chirp
Express your deepest pleasure?
And are you of life's many gifts
Content with your small measure?

MABEL F. CRADDOCK.

THE UNITED STATES VETERANS BUREAU AND ITS WORK

BRIG. GEN. FRANK T. HINES, Director

THE U. S. Veterans' Bureau was created by Act of Congress on August 9, 1921, in response to the necessity for co-ordination of veteran relief which up to that time had been administered severally by the Bureau of War Risk Insurance, the Federal Board for Vocational Education, and that portion of the Public Health Service then engaged in furnishing medical care to disabled veterans.

With the central office in Washington as a nucleus, the present organization consists of 54 regional offices, 49 hospitals, and two supply depots. The Washington office comprises the office of the director; six separate services each under an assistant director, as follows: Medical, Adjudication, Finance, Supply, Legal, and Co-ordination; and the independent Construction Division, Contact Division, and Division of Appeals.

This organization is reflected in miniature in the field and each regional office is fully equipped and authorized to administer practically all phases of immediate veteran relief.

The original functions of the Bureau were the medical care and treatment of veterans, the award and payment of compensation, writing and payment of insurance, and the vocational rehabilitation and returning to civil employment of the disabled persons discharged from the military or naval forces of the United States. To these has been added the administration of the Adjusted Compensation Act, popularly known as "the bonus," and of the Disabled Emergency Officers' Retirement Act. Vocational training was terminated by law July 2, 1928.

Consistently increasing liberality of legislation has added to the Bureau's jurisdiction from time to time,

Ancon Hospital. Physicians, clerks, and nurses are active members of the Federal Employees Union

enabling us to do more for a greater number of veterans, and at present we are authorized to hospitalize veterans of any and all wars without regard to the nature or origin of their disability, where facilities are available. This particular feature is one of the causes of the urgent demand for hospital construction which has been generously met by the present Congress in authorizing upward of $15,000,000 for additions to existing facilities and the construction of new veterans' hospitals. Until this enactment, however, estimates for the construction of hospitals had always necessarily been based upon the service-connected patient load, but Congress has now made it plain that they wish to give the same adequate care to non-service-connected cases as has already been provided for the others.

On November 30 last we had 28,874 veterans hospitalized under the supervision of the Bureau—43 per cent of whom were the non-service-connected cases, and the majority of those awaiting hospitalization also were of this class.

I have previously and consistently advocated the adoption of a uniform policy for the treatment of all veterans, and I feel that the passage of this legislation is a distinct advance toward this objective.

The most important step to be taken next, I feel, must be the consolidation and co-ordination of all veteran relief. It would be quite as reasonable to ask a housekeeper to maintain and operate several separate establishments in feeding and caring for a family as it is to expect Uncle Sam, through his legislators, to take care of one group here and another there, each under separate laws, methods, and appropriations.

If we could handle the whole problem in one enormous unit, considering the total number to be cared for, their several and varied needs, the equipment and facilities necessary, and the cost of maintenance and operation, we could eliminate many loose ends and inequalities, and untangle the overlapping of functions or authority which now more or less impede and obstruct the administration of governmental veteran relief.

It should be understood that at present many veterans have to be retained in our hospitals through a certain period of convalescence, whereas if the domiciliary care such as is given in soldiers' homes were available always, the Bureau could clear its hospitals of these convalescent cases, and make the beds accessible to such cases as were in need of actual hospital care. This is just one instance in which consolidation would afford immediate benefits and also reduce expenses of administration, domiciliary care being much less expensive than expert hospital care.

Since the termination of vocational education, the Bureau has had no separate funds for assisting veterans to obtain employment; and while I have previously felt it would be desirable that this function be delegated to the Bureau, I am interested and gratified to know that the Department of Labor has asked for a specific appropriation to carry on this work, and if this appropriation is granted it will make possible proper assistance by the Government in placing and maintaining veterans in employment.

Through the Medical Council of the Bureau, which is composed of over thirty nationally known experts and specialists, acting in an advisory capacity without remuneration, the best that medical science can offer is being constantly made available to the veterans, and in all of our hospitals and our diagnostic centers. The resident staff is augmented by the services of expert consultants from nearby cities.

The Medical Council at its inception adopted the slogan, "Cure better than compensation," and this goal has remained constantly before us. The award and payment of adequate compensation for physical disability is of the greatest importance, but we feel it much more a service to give a man back his health and restore him to civic usefulness than merely to house him comfortably, feed him well, give him such medical care as his condition may indicate, and keep him in a hospital indefinitely.

Within our own medical service we have adopted many measures to improve methods, treatment, and procedure, and there was introduced but failed of passage in the previous Congress a bill to provide a medical corps for the Bureau so that we could offer a definite career to physicians, thereby attracting young men who would "grow up" with the Bureau and through the assurance of a stable system of pay and promotion would be enabled and content to give their time and efforts to the development of the best possible medical service for the veterans. Professionally, the Bureau practice should appeal especially to medical men as we have many complex and unusual cases both in medicine and surgery, and for those physicians who are interested in a study of special diseases, such as tuberculosis or the many phases encountered in neuropsychiatric cases, there are presented opportunities for sustained observation and study of such cases not to be found in civilian hospitals, where the sojourn of patients is more transient.

The diagnostic centers have demonstrated their value from the beginning, and while there has been a certain demand for the extension of these clinics it has not been found practicable to proceed more rapidly than we have for the reason that it has been impossible to obtain the highly specialized personnel to staff them. We are making efforts to develop such personnel within our own staff wherever an opportunity presents itself, and have had special courses of study each year for this purpose.

Since the passage of the World War Veterans Act, June 7, 1924, it has been found necessary to augment greatly the Director's jurisdiction over the administration of awards paid to fiduciary agents for the benefit of minors and incompetents. By the very nature of their disabilities these beneficiaries were completely dependent upon the judgment and integrity of their guardians or curators, and in all too many instances it has been disclosed that, either through ignorance or neglect of such agents, the supposed beneficiary might be more correctly depicted as a victim. There was always the alternative of recourse to the courts appointing the guardians, but here again the very nature of the wards' incapacity pre-

vented their instigating such an appeal. Under the discretion now accorded the Director, it is possible to maintain a supervisory authority over all guardians of incompetent veterans or the minor children of veterans and a special division has been inaugurated in the central office with branches in every regional office to record, investigate and supervise when necessary cases wherein payments are made to fiduciary agents. It is also incumbent upon such agents to make full and satisfactory accounting of their administration to the Director when requested to do so. In the case of failure or refusal to comply with this requirement, the Director is authorized to suspend payments, also to initiate steps for the removal of such guardians and the appointment of others.

During the past year legislation has been enacted in a majority of the States which will greatly aid the Bureau in its administration of benefits for the mentally disabled veterans and will provide for the commitment of mental cases to Bureau hospitals instead of insane asylums.

The legislation referred to was proposed by the National Conference of Commissioners on Uniform State Laws, which formulated the National Uniform Guardianship Act. This act was approved by the American Bar Association and most of the veterans' organizations and it is this bill, or similar legislation, which has since been adopted in a majority of the States, materially aiding the Bureau in this phase of its work.

The Bureau also has the assistance of the Legal Advisory Council, a group of well-known and experienced attorneys, nominated by the President of the American Bar Association and appointed by the Director, who serve gratuitously in an advisory capacity to the Director and the general counsel.

In the administration of the Adjusted Compensation Act the Bureau has become engaged in quite an extensive banking business with veterans wishing to borrow money on the security of their adjusted service certificates. The original act authorized the banks to make these loans, but the service proved inadequate, as many veterans had no banking connections and failed to secure loans, while in other instances the banks did not care to undertake the rather involved bookkeeping necessary in order to comply with the law. The act, therefore, was amended authorizing the Bureau to supplement the banks in making loans to the veterans and to date we have made over one and a half million, totaling nearly $150,000,000 in value.

Another activity of the Bureau which has reached immense proportions is the writing and payment of government insurance, which has developed into one of the largest insurance businesses in the world. That it has been successful is evidenced by the distribution to policyholders of over $28,000,000 in dividends during the past year. The Bureau offers seven forms of insurance comparable to commercial types—ordinary life, twenty and thirty-year payment life, twenty and thirty-year endowment, endowment at age 62, and five-year convertible term, which is a less expensive form of insurance than the regular types, but automatically

merges into ordinary life after five years, upon payment of the premium rate required for ordinary life.

Congress has removed the limit of time in which application may be made for insurance, and any veteran now in good health may apply for insurance up to $10,000. On November 30, 1929, there were 648,870 policies outstanding, representing a value of $3,052,381,026.

Until its termination by law, July 2, 1928, vocational training had required disbursements of $644,984,470. Up to November 30, 1929, compensation amounting to $1,522,008,457 had been disbursed for service incurred or connected death or disability; the administration of the Adjusted Compensation Act is represented by $116,410,959, and $402,845,323 has been disbursed for medical and hospital facilities and services. Since March, 1919, over $90,000,000 has been expended or obligated for hospital construction, and an additional $15,950,000 was authorized to be appropriated December 23 last. These items are classed as direct veteran relief and in addition to them disbursement of $1,288,340,105 has been required for insurance. The grand total of disbursements for all purposes to November 30 is $4,947,650,685, of which only $354,931,738 has been for administration.

When these items are carefully considered in their proper relation to the benefits actually received by veterans, it is apparent how generously the United States has dealt with her veterans and their problems. It is now the beginning of the twelfth year since the Armistice, and there is no diminution of liberality or interest manifest in Congress or the country at large where the veterans' welfare is concerned.

Certainly America has not forgotten!

SONG

All with broken hearts to mend,
  Come where Madge sits by the wall—
Trusty, crusty, ancient dame,
  Apple-woman at her stall.

She will fit the pieces tight,
  Bind them close with magic glue,
Pinch and shape and pat and then
  Hand it back as good as new.

Just as good as new! And if—
  Rainy nights, sometimes—it aches,
Do not bring it back. Madge knows
  A heart once mended never breaks.

Hard for hate, and strong for work,
  Tough enough to fight down fears,
Not so quick at love and hope,
  Good to thump for years and years.

MARY ISABELLE O'SULLIVAN.

BUILDING UP THE NATION'S FORESTS

Duties and Objectives of the U. S. Forest Service

CHARLES E. RANDALL

In Charge of Press Relations, U. S. Forest Service

CONSERVATION, rehabilitation and development of the Nation's forest resources is a major public interest. The situation requires public leadership and assistance, and this is the outstanding responsibility of the Forest Service.

Work party en route between stations

The Forest Service was created in its present form as a bureau of the United States Department of Agriculture in 1905. It was placed in the Department of Agriculture because the science of forestry is essentially a branch of agriculture; it has to do with the growing of successive crops of timber from the soil and with the productive utilization of land. It is also closely related to other lines of work in the same department, particularly erosion control, game management, range management, agricultural economics, entomology, and plant diseases.

The Nation's forest problem is a land problem, a raw material problem, an industrial problem, and a social problem. In essence, it consists of finding ways to keep one-fourth of our land area productive, to supply about 25 million cubic feet of wood a year, to perpetuate industries that employ over 1,000,000 men, and turn out products valued at over two billion dollars a year, to obtain full benefit of forests in conserving soils and waters, and to preserve the important social values of forests.

Forest depletion on a large scale has proceeded for many years. The Nation has been drawing its wood supply largely from capital account, for the annual growth has been only about one-fourth the annual depletion. Forest depletion has augmented erosion over large areas and added to the menace of floods. It is immediately necessary to check forest fires and promote more satisfactory methods of exploitation of private timber holdings before fires and

Castle Peak Lookout, Colo.

Fire Lookout, Mount Eddy, Calif.

destructive cutting, particularly in second growth, still further reduce the productivity of our lands. A larger, forward-looking forestry program will require: (1) Aggressive cooperation with forest owners to abolish destructive exploitation and to stimulate larger industrial participation in an enlarged program of forest research; (2) public assistance in strengthening and stabilizing forest industries so that they can definitely undertake orderly production and continuous timber-growing, and increased aid to farmers and other small owners; (3) investigation of the feasibility of public measures to prevent destructive forest exploitation; (4) larger public and private participation in fire protection to afford ultimately a complete and adequate protection system for all forest lands; (5) large extension of Federal and State ownership of forest lands, including certain marginal lands not needed for other crops, denuded areas not being rehabilitated under private ownership, and certain other areas as a means of restricting destructive exploitation by bringing a larger proportion of the forest area under productive management, and (6) making public forests fully productive, especially through complete protection, more intensive management and an adequate program of planting.

Administration of the national forests, promulgation of forest research, and cooperation with the States in

forest protection and promotion of private forestry are three major lines of Forest Service activity.

The Forest Service administers 150 national forests located in thirty-one States and Territories, and having an aggregate net area of nearly 160,000,000 acres. As public properties containing basic natural resources, national forests must be managed for continuous production. Chief resources include wood, water, range forage, and recreational opportunities. Their scientific management and protection will help stabilize industries and communities dependent upon them, insure regular water supply, aid in flood prevention, and afford recreation for millions. The national forests supply a yearly cut of some one and a quarter billion board feet of timber which ultimately will be several times as large, protect watersheds of about one-third of the water-power resources of the country, and the water supplies of some 780 municipalities, and furnish range for more than seven million head of livestock.

Cutting of timber on the national forests is done under Forest Service supervision on the principle of sustained yield whereby adequate provision is made for successive crops of timber on the same land. Ranges also are managed for continuous forage production as well as for soil conservation and watershed protection, and under such management have contributed greatly to stabilization of the

Courtesy U. S. Forest Service Photo by E. S. Shipp

Forest officer scaling timber, Coconino National Forest, Arizona

livestock industry in regions where ranges had been badly depleted by previous overgrazing.

Fire prevention and suppression is, of course, a major activity, as fire is the chief agency of destruction in the national forests.

Twenty-five per cent of the receipts from timber sales, grazing fees, etc., are turned over to the States in lieu of taxes, to be prorated to the counties containing national forests for schools and roads. An additional 10 per cent is expended for roads and trails within and adjacent to national forests.

Federal leadership in forest research is essential as a means of speeding up the adoption of better forest practices. There is needed more knowledge of methods of timber growing and forest protection, more intensive utilization of forest products, more knowledge of range management, more knowledge of forest economics, including a national survey of forest resources as a basis for national policy and private forestry undertakings.

The Forest Service maintains ten regional forest experiment stations where problems of forestry are under investigation. Three range experiment stations also are maintained and a forest products laboratory devoted to research in the problems of wood utilization.

Four-fifths of the forest area of the United States is in private ownership, the bulk of it subject to destructive exploitation. The States and the Federal Government are cooperating in the promotion of private timber growing and in improving methods of handling private forest areas by strengthening public assistance to forest owners in protection, planting, woods management, and tax reform.

Fire protection is the first step toward forest culture, and approximately two-thirds of the country's forest area is now under organized protection, private holdings being protected under cooperative agreements between the Federal Government, the States and the private owners. Much of that protection, however, is as yet inadequate, and it must be extended and intensified as rapidly as possible.

The Federal Government and the States also cooperate in the growing and distribution of forest nursery stock for farm planting and in giving aid to farm woodland owners through extension activities. An inquiry into the methods of taxing forest lands which will be most conducive to profitable timber-growing by private owners is in progress.

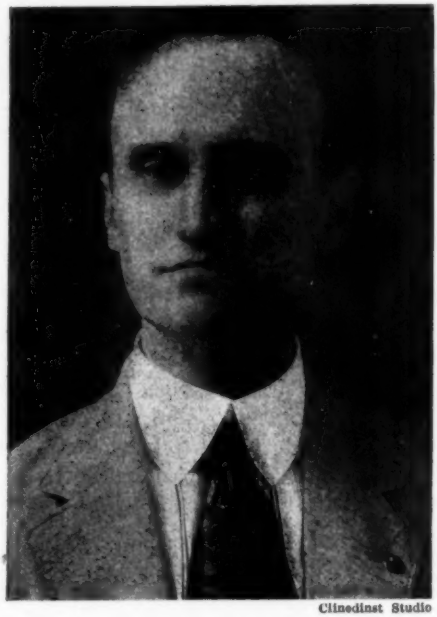
An ideal is the most practical thing in the world, for it is a force behind action that must be reckoned with by the frankest materialist.

EDWARD HOWARD GRIGGS.

FEDERAL EMPLOYEES WHO MAKE THE MONEY

HERBERT S. HOLLANDER

MAKING the Nation's money is one of the important duties of Federal employees. It demands a high degree of skill and the utmost dependability in handling the precious metals going into the coinage and in guarding both the coins and paper currency while they are in the process of production. Nearly all employees who do this work are members of unions affiliated with the American Federation of Labor, the great majority through the National Federation of Federal Employees.



Clinedinst Studio

C. L. WIEGAND
Internal Revenue Service, Baltimore.
Fourth Vice President, National Federation of Federal Employees

All of the United States paper currency is printed at the Bureau of Engraving and Printing in Washington, while the gold, silver, nickel, and copper coins are struck off at the mints in Philadelphia, Denver, and San Francisco. In the making of both kinds of money are employed some of the most skilled workers in the world, and the process of manufacturing this valuable product is characterized by adherence to a standard of workmanship that is of the highest.

Consideration of the processes involved in making the money necessarily must be divided into the manufacture of the two kinds, the so-called hard and soft money, the latter being the paper currency printed at the Bureau of Engraving and Printing, and the former the metal money coined at the mints under the administration of the Bureau of the Mint. Both bureaus are part of the Treasury Department.

Historically, the Bureau of Engraving and Printing had its inception with that designation during the Civil War. Throughout the Revolutionary War paper money was issued by the Colonies and by the Continental Congress, some of it being engraved. But up to the beginning of the Civil War, State banks were the agencies that issued the engraved paper currency. The first paper currency of the Government consisted

of the old demand notes of 1861 and 1862, and these were followed by the issue in the latter year of legal tender notes or "greenbacks." With the establishment of the present system of issuance, the currency became fivefold: Notes, silver certificates, gold certificates, national bank notes, and Federal Reserve notes. In addition to these kinds of currency, the Bureau prints all Government bonds, certificates of indebtedness, internal revenue stamps, and postage stamps.

The danger of counterfeiting must be combatted in all types of money. When the greenbacks were first issued, private bank-note companies alone were equipped to engrave and print them. They were then forwarded to the Treasury Department for the affixing of the necessary official signatures. The possibility of counterfeiting was great and to correct this condition, Congress granted permission to imprint the facsimile signatures on the notes from engraved plates in March, 1862. Later machines were used to do this work, and their success led to the performance of all operations, including the engraving and printing, within the Treasury Department.

In 1862 the Bureau of Engraving and Printing occupied a single room in the attic of the Treasury building. Sixteen years later it was moved into a building of its own, and finally, in 1914, into a large and modern plant erected at a cost of $3,000,000. It is a factory type structure and, because employees cannot leave the building during the day, it was necessary to look more especially to their health and comfort.

From the beginning the Bureau has employed some of the finest exponents of the engraver's art, whose work has received the highest commendation at expositions both in this country and abroad. When there is to be a new issue of notes or other security, a trained designer prepares a model, which is discussed by officials of the various branches of the Government involved. After its approval by the Secretary of the Treasury, the design is reproduced in soft steel by engraving specialists working with steel tools having a diamond-shaped point and aided by a powerful magnifying glass. The utmost care must be taken in this work, for a single slip of a tool or the smallest miscalculation may result in the loss of weeks or months of painstaking labor.

The die so produced is then heated in cyanide of potassium and hardened by quick dipping into oil or brine. In its completed state the die is placed on a transfer press and a steel cylinder is rolled over it under great pressure so as to reproduce the lines of the engraving on the circumference of the roll. The roll is then hardened in the same way the die was hardened, and the impression in relief from the hard roll is transferred to an intaglio impression on a plate ready for the printer. An electrolytic process also has been developed at the Bureau.

The paper used in printing notes and securities for the Government has a distinctive character designed to reduce the possibility of counterfeiting. This paper has been improved from time to time and embodies a silk fiber. It is produced under the supervision and protection

of the Government. All the ink used for intaglio printing and a large proportion of that used for surface printing is made at the Bureau.

Paper is received at the Bureau in sealed packages of 1,000 sheets each. The sheets are counted and the paper weighed to verify the correctness of quantity. Employees having it under their charge are required to sign their names to tags placed in the packages.

Since moist paper is more pliable and will receive an imprint with less pressure resulting in a clearer impression, the paper is moistened by a special wetting machine equipped with a felt blanket on which the sheets are fed automatically under a spray of water. While the paper is thus being prepared for plate printing, it is constantly under the supervision of expert workers who must guard against excessive wetting that would cause considerable trouble in printing.

A printer and two women assistants operate the flat-bed, power, plate-printing press used in the Bureau. The printer is responsible for the quality of the work and must adjust the machine so that it will keep the product up to the high standard of excellence required for the currency. In this he is aided by his assistants, the one placing the wet sheets on the press and the other removing them after they have received an imprint and watching carefully for imperfections.

After the sheets have been printed, they are delivered to counters in the examining division so that a strict check may be kept on the number of sheets being worked. At the end of the day's work, the printer cleans the ink from his plates and locks them under heavy steel covers on the press. A report must be prepared to show the amount of paper drawn from the wetting division and the amount returned at the end of the day, and all records must be in agreement before employees are allowed to leave the building.

When they have been dried, the printed sheets are examined for imperfections, some of which are corrected by workers trained to touch up small breaks and remove slight smears so that they cannot be detected. The next step is sizing or the application of a special coating. Further steps in the work include trimming, numbering, sealing, separating, and packing for delivery. Between these processes the paper is securely locked in vaults and is constantly checked to make certain that no sheets are missing.

During the World War the facilities of the Bureau of Engraving and Printing were taxed to their utmost, and the Liberty Bond and Victory Note issues involved the printing of a total of 191,344,560 of these securities with a face value of $61,006,900,000.

While the minting of money, in its various processes, is not comparable to many of the metal processes of private industries, however, in many classes there is this distinction, that in each and every process in the coinage of money the working of the metals through their various stages must be handled with a greater degree of accuracy than is necessary in any of the industrial processes, in order to prevent either the loss in

value to the Government through an excess in weight or the debasage of the coinage by a deficiency in weight. As a check and safeguard to insure this accuracy there are employed micrometer gradings in the stages where the metal is reduced to coin thickness; and after the coinage strips have been worked into planchetes, or blanks, they are subjected to weighing processes whose accuracy can be illustrated by stating that a hair from a man's mustache can disturb the balance.

Bullion is received into the United States Mint and is immediately sampled by the assayer's department for the purpose of determining the fineness or commercial value of the bullion, and for the purpose of reimbursing the depositor or commercial owners. The principal assay office is located in New York. Bullion may be roughly classed as deposits from old gold or silver dealers, opticians and dentists who obtain the metal from spectacle frames and dental crowns, but the principal source of supply is from commercial refineries which work up the products of mines and other sources of commercial metals. Where the deposits are of sufficient fineness to be worked up in the mint process without resorting to refineries, they are started on their way through the manufacturing departments.

The metal is first reduced to standard-size ingots in the melting department, where the process is briefly as follows: Quantities of precious metal and the necessary alloy to bring it to the standard average for coinage purposes are placed in a crucible, reduced to molten form, then poured into molds, and later finished, and trimmed, so that it may be handled without loss or danger of injury to employees.

Ingots are issued to the rolling department, where they are subjected to a cold-rolling process that reduces them to the standard thickness of the several denominations of coinage. This is probably one of the most laborious portions of the minting process, as employees are required to stand at their machines continuously from 8 a. m. to 12:30 p. m., and at the beginning of the process must lift ingots of an average weight of four pounds, fifteen to the minute or one every four seconds. From the conclusion of the noon rest period at 1 p. m., they are continuously employed at the same activity until 4 p. m.

In this same department planchets, or blanks, are cut from the coin strips and then washed in an ammonia and soda solution to remove all evidence of grease and dirt. They are then subjected to the process of weighing. Machines used for this purpose are so delicately balanced that the annual assay commissioner appointed by law rarely if ever finds non-standard coins. These machines will weigh 100 coins per minute.

The next major process is the actual stamping of the coin. Here the blanks are fed into semi-automatic coining presses. At first they are introduced by attendants and later by an automatic feeding device. Coins having been stamped are reviewed by employees for the purpose of detecting surface flaws. Flaws of any character, whether pits or scratches, are imperfect and immediately rejected.

to be again subjected to the melting process for recoinage.

It is interesting to note that the mints of the United States Government have handled a greater amount of precious metal than any other similar or private activities anywhere in the world. The assay service has been recognized as a standard of accuracy throughout the world, and frequently bullion with U. S. assay stamps is accepted by foreign governments without question as to its accuracy.

The engraving department is a model of artistic and mechanical accuracy. Designs of artists for coins or for medals are reduced to die form through a succession of operations that, when completed, produce a die of unparalleled beauty and accuracy.

Employees engaged in the making of both paper currency and coinage are of a high type and are required to pass the Civil Service examinations and to furnish impeccable recommendations. Rarely in the history of these services have employees been derelict in their duties or betrayed their trust.

Taken as a whole, minting processes are a combination of mechanical, manual and artistic excellence. This also may be said of the printing of the paper currency, securities and stamps, with the result that all these products represent supreme examples of the craftsman's art.

CONQUEROR

My enemies have fled from me,
  They dropped their weapons and ran.
The stars came out in their old-time places,
  The noises of night began,

A wail here and a whirr there
  And a little slipping sound,
The snap of a twig as a padded foot
  Softly presses the ground.

But I am not afraid at all,
  I stand as a man should,
For I have worsted my enemy
  Alone in the lonely wood.

When day comes I shall go again
  To the old work and the old way,
But I think I shall not fight again
  Whatever the world may say.

LOUISE DRISCOLL.

KEEPING THE LIGHTHOUSES

LEE R. WHITNEY

Third Vice-President, National Federation of Federal Employees

THE Lighthouse Service of the United States Department of Commerce has supplied some of the most notable examples of self-sacrificing Government employees who perform their duties despite the manifold hardships which they must undergo. These workers compose a large group of members of the National Federation of Federal Employees, which is seeking adequate recognition of the difficulties that face them.

Photograph by Bachrach

LEE R. WHITNEY

Steamboat Inspection Service, Milwaukee.

Third Vice President, National Federation of Federal Employees

The history of the Lighthouse Service in the United States dates back to 1715-16, when the first lighthouse on this continent was built at the entrance to Boston Harbor by the Province of Massachusetts. Congress, by the Act of August 7, 1789, authorized the maintenance of lighthouses and other aids to navigation at the expense of the Government. Since that year aids to navigation have increased to thousands, with many lighthouses situated in isolated places where keepers are not in touch with the outside world, except by radio, for months at a time.

The American lighthouse keepers are fighting a hard battle not merely against tremendous hardships but against needless hardships imposed upon them by reason of meager pay, long hours and little leave of absence from their stations. There is a deep sense of patriotism among them, a high sense of duty which renders it difficult if not impossible for them to complain publicly of their troubles. Such fortitude should not pass unrecognized.

Work to the lighthouse keeper becomes a sacred duty. His is a lonely existence upon which the thread of many a life hangs. Physical hardship he accepts as part and parcel of his job, and it is no surprise to him to learn that service means forfeiture of recreation, isolation, and even sacrifice of the company of others. Surely these "forgotten men" of our coasts should not be forgotten!

In the development of the Lighthouse Service, light vessels have come into existence. They are placed three miles and more out in the open waters and are moved only when repairs must be made. As a result the crews are isolated there many days without shore leave. Lighthouse tenders also have been added for the purpose of carrying to light vessels and isolated light stations both the ordinary articles of maintenance and the materials for construction or repair. They also are used for inspection purposes when necessary.

These tenders are used in taking in various aids at the close of the navigable season and for replacing them at the opening of navigation. It is their duty to make repairs to these aids, replenish fuel for gas buoys and the like.

These buoys are placed in position and cared for by the lighthouse tenders, which are provided with specially designed derricks and lifting gear for handling them. It is customary to relieve all buoys at least once a year for overhauling, repairing, cleaning, and painting. A great effort is made, however, by the service to maintain them on station in an efficient condition, which frequently requires strenuous and hazardous exertions on the part of the vessels charged with this duty. Only recently one of the lighthouse tenders, while replenishing one of these buoys with fuel gas, lost several of its crew. They were alongside a buoy and the crew were putting the fuel in when the gas became ignited and exploded, killing several of the men.

On Lake Michigan, boats are running both summer and winter. This necessitates keeping the lights going during twelve months of the year. During the winter months, these lights become heavily coated with ice and the work of the keepers becomes very hazardous. They are continually exposed to the severe weather, and instances are known where many have never fully recovered, while some have died as a result of these hardships.

While the work of the Service is concerned principally with the maintenance of aids to navigation, it frequently happens that opportunity presents itself to give assistance to persons or vessels in distress. In such cases it is the duty of light keepers and their assistants and of officers and crews of lighthouse vessels to give or summon aid to vessels in danger, whether public or private, and to assist in saving lives and property from the perils of the sea whenever it is practicable to do so. The record of the service is replete with many heroic incidents of this character.

On account of the comparative iso-

lation of many lighthouses and to insure immediate attention at all times, it is the practice of the service to furnish quarters for the keepers at all attended lights. Dwellings for keepers and their families are provided for nearly all lights located on shore, while in the case of off-shore stations, where women and children are not permitted to reside on account of hazard in making landings and because of restricted space, quarters for the keepers only are allowed.

A completely equipped light station on a land site usually consists of the light tower, oil house, fog-signal building, keeper's dwelling, workshop, water supply and drainage systems, roads, walks, boathouse ways, and barn. Many lighthouses at the entrance to harbors are built on the ends of breakwaters or piers, utilizing, as a rule, those structures as foundations.

The duties of all keepers require that the lights be given the necessary care and attention in cleaning, filling, lighting, and often that the incumbent possess ability to handle a boat. In many cases knowledge of operating machinery is required. This is not all that the keepers do, however. In addition to taking care of the lights they must keep their stations in good repair. This calls for painting buildings and making necessary repairs to them. It is not uncommon that the keeper's wife takes an active part in caring for the lights and for the station. The Government then receives the benefit from this work without any recognition or additional pay.

In recent years a new field has been added to the Lighthouse Service as a result of laying out the airways across the United States and maintaining beacons to guide the planes going across the country at night. Lights similar to those in operation at the lighthouses are established. At night they flash intermittently, thus guiding the planes to their destinations.

In view of the difficult working conditions which beset them, the employees of the Lighthouse Service, finding that individually they can do nothing to remedy these unfavorable conditions in the service, have joined the National Federation of Federal Employees, and through it have affiliated with the American Federation of Labor to bring about an improvement.

THE SHEPHERD

Along the high, far-distant reaches, swinging beneath the lifting blue,
He holds His moon-lantern of silver to light the straying clouds down deep
Illimitably spreading meadows of star-flowers that they wander through . . .
But dark earth does not move her eyelids; no vision stirs her dreamless sleep.

JESSIE LEMONT.

AMERICAN LABOR AS SEEN BY A FRENCH WORKMAN

"Standards" Reviewed from the French of H. Dubreuil *

ELEANOR BUSHNELL COOKE

ALTHOUGH this book was written for French readers, it is brimful of human interest for both workers and employers in this country. Obviously there is much that is not new to either in some of the facts presented, but Mr. Dubreuil's freshness of point of view, breadth of vision and delightful humor carry the reader through his pages with almost breathless interest. His object in working for eighteen months in American shops was to live the life of an American workman, to see for himself the processes of production in both old and new-type organizations, and to learn whether so-called American methods are applicable to French industry. His outward equipment for the task were his experience as a mechanic in France, his work in labor organizations, some knowledge of English, gained by working in an English factory before coming to America, and a kit of tools. But beyond this he brought a mind already self-trained by keen observation and philosophic reflection to follow the trend of the workers' progress in industrial responsibility and social liberty. He makes amusing stories of his walking the streets for a job; of his first experience in "business methods" at the employment agencies. He learns that in America as in France it is useless to expect the promised "raise" if the week's bookkeeping has already been done (and it always has been done!). But running through the accounts of his experiences in a New York furniture factory as antiquated as any in the provinces; in a copper-wire cable shop, where the old rule-of-thumb methods persist; coupled with his descriptions of his astonishment that, in a country where the division of labor is almost a gospel, he should have both to set up the lathe and to use the tools on the surface and also to do the sedentary work at the lathe—through all these interesting reactions to our methods there is the reiteration of certain fundamental principles which he is endeavoring to establish in the mind. As a worker himself and a student of the history of labor he knows the suffering that has often been the worker's lot; he knows also the resources of the worker that have not even yet been tapped for the good of the world as well as for his own good. He realizes that there are inner springs of incentive to be released, and his observations made under many different conditions of work in America convince him that the answer to social progress will be based on the results of American methods in industry.

* French edition, 1929 (425 pp.), Bernard Grasset, Editeur. English Translation on the press. "Robots or Men," by Harper & Brothers. Mr. Dubreuil was many years secretary of the Confederation Generale du Travail.

Mass production is necessary in the progress toward better social conditions, when all men will have the good things of life available because of reduced costs and prices. To this end he stresses the machine and cooperation as the most important factors. In the combined use of these, America is accomplishing practical results while European theorists are still formulating ideas.

After working in old-time shops, Mr. Dubreuil spent some time at the Ford plant, at the Dennison plant, at the White Company plant in Cleveland, and elsewhere. He gives exceedingly fair and interesting details and comments about all his experiences. Indeed the book is full of good, "true" shop stories, which illuminate his general observations. "The machine" has no terrors for him, not even "the conveyor" or the "chain gang," all of which he thinks are misunderstood in France. He finds the American worker, thanks to the machine, has ceased to be a burden bearer as he is in Europe. He may drag a heavy load, but he will not lift it. In France there are laws on this subject to protect the worker. Here machinery makes similar laws unnecessary. The machine does not remove the need for brain work. On the contrary, machinery has become so complicated that it requires intelligence to use. But it does work formerly done by martyrs, and releases their minds for more important things. Joy is not crushed out by machines but by men. Progress in technique and liberty should go together. So cooperation as practiced in America is given equal emphasis with modern machinery. Mr. Dubreuil notes that American labor is not interested in class struggle as such, but, to quote a labor leader, the American worker wishes to work with, not for or under, the employer. He himself does not dream of the leveling of classes, but of better circulation among them. Here conditions make the American ideal somewhat different. Many interesting details are given of the distinguished success of the union-management cooperation on the B. & O. Railroad as of the plants above mentioned. Scientific management is analyzed both critically and sympathetically, with two or three possible misapprehensions on his part. Constant experimentation and research in the shops, which he considers veritable laboratories, have reduced immeasurably the monotony of repetitive processes while developing new standards in machines and in practice. He marvels at the scientific approach to each problem in the well-organized modern shop, at the instruments of precision which the workers themselves own, at the constant revision of processes in order to save material, time and labor, thereby reducing costs and prices. Mr. Dubreuil continually decries the criticisms of the casual shop visitor who draws conclusions from cursory observation. He contends that only the worker can truly evaluate the work or the methods. For the moment he forgets the tribute he generally pays to the technical adviser with whom both employer and worker cooperate in the most developed organizations. The democratic spirit in the shops is a new experience for a Frenchman. In Europe the employer generally ignores or patronizes his employees.

Also Mr. Dubreuil is surprised at the kindness of fellow workers to a new arrival. He finds the workers live much better than in France, whether at home or in boarding houses, which latter institution is much more homelike than similar places abroad. Sympathetic on the whole to our conditions, Mr. Dubreuil calls attention to some of our limitations which we would do well to note. They are given in such a kindly spirit that they more often make us laugh than wince.

He believes that the intensity of work here is misunderstood in France and was astonished to find that modern methods bring greater results with less effort. However, he reiterates that whatever the efficiency of machine or methods they cannot bring social peace unless there is social justice. It is impossible to compare wages in the two countries without taking into account the difference in cost of living in both. Therefore he makes an interesting comparison by expressing the real cost of an article in terms of the time required to work for it. A few items only follow:

	France	*America*
1 doz. eggs	2 hr. 30 min.	55 min.
1 lb. potatoes	9 min.	6 min.
1 lb. pork	2 hr. 40 min.	18 min.
Picture show	1 hr.	20 min.
New Ford	Not possible to him!	18 weeks

So, Mr. Dubreuil considers Mr. Ford a socialist to the extent of making an automobile possible for the poor as well as for the rich, but while lauding much that is done in the Ford plant, especially his reduction of working time to an eight-hour day and a five-day week, he still feels that the organization of the plant is on old lines in many ways. Ford does not encourage absolute harmony, as did Fourier in France, but thinks competitive struggle increases production. Beyond Fordism and based on many of its material improvements are greater heights to be reached.

Dubreuil is quoted as not fearing the machine. This is true in regard to its inability to stifle men's artistic and intellectual aspirations, which are really released by them. The American worker has discovered that modern methods have been responsible for his continuously higher standard of living. But the machine as a factor in technological unemployment is definitely recognized and thoroughly discussed. The following story shows his grasp of the possibilities of unemployment:

Employer: "Greater output, or I will have to shut down."

Result: Employer and laid-off workers seated among boxes of unsold articles, which the worker himself no longer has the money to buy.

Not pay for unemployment but elimination of unemployment must be the solution of the problem. This will be reached only when the same exhaustive research has been applied to this difficulty as has been given to other industrial problems in America.

The average American worker may have a comfortable home, a radio, a piano, and an automobile and still lack evidences of intellectual development outside his work. Mr. Debreuil charitably inquires whether the French worker, without the com-

forts of life, has any more of such culture. Art in Europe has brought joy to those who already have this world's goods, but besides an esthetic contribution it has done nothing to relieve the burdens of the worker. Other European workers go to France for work. The French come to America. No American goes to France for a job. Is not this one answer to the question: Are American industrial methods desirable? Mr. Dubreuil is convinced that French industry should adopt them as rapidly as possible for the benefit of the worker, the employer and the consumer. Contrary to the European view, improved material conditions do not decrease men's spiritual aspirations. Reform has never come from men in dire misery, but only from those generous souls who have been raised above the state of abject misery by the force of their inner life.

The essence of the problem is, "Why should the worker find the working hours long?" He will not when labor is so organized that his inner springs of incentive are released. Progress is reached whenever the constraint of purely external authority is lessened. Every self-motivated act is worth many made under orders. The problem is to create such an environment as will make men act properly of their own accord.

Mr. Dubreuil gives a description of American labor unions which needs no elucidation here. The injunction is an injustice not known in France, but there unions have troubles of their own.

Company unions he deplores as palliatives calculated to divert men's minds from the larger questions of prosperity in general and even of industrial progress by this elementary representation of the personnel in a single establishment.

Mr. Dubreuil repeatedly states that he does not pretend to have seen everything in America. He gives ample evidence of having gained remarkable insights through personal work in many places. His first definition of "scientific management" is too general to be correct, but he later evinces a substantial understanding of its philosophy and practice. One can hardly agree that skilled workmen are not included in the scheme of scientific management organization. As Mr. Dubreuil later speaks so eloquently of a scientific technique as the basis for cultural and spiritual development, perhaps on second thought he would accord Mr. Taylor a logical place "among those prepared for the rôle of leaders of men." However, this book is so fair and even generous to all the various efforts made in America for bringing about a better social order based on all kinds of scientific experimentation that any criticism of details is gratuitous.

One does not quarrel with an author who believes that the order of work should be replaced by the conception that all labor should be a work of art or should tend to that end, and who insists that the profound harmony of art implies the highest conception of order; and, despite elementary responsibilities, it is always toward this highest form of human activity that the mind must turn to keep a sane equilibrium. To approach order, that is art. The partitions between the workman and the

employer must be removed to allow free circulation of the forces of life which now oppose each other instead of harmonizing, making a battlefield of the shop which should be a place of peace and joy. This book is a mine of such ideas born of practical experience and of vision, which cannot fail to stimulate as well as to entertain all those who are interested in human progress. The point is, as the author says, to work for the future and not to concern ourselves too much with the past.

Mr. Dubreuil's book is honored by an important eight-page preface written by Henry Le Chatelier, eminent French engineer and member of the Academy of Sciences. His sympathetic understanding of industrial conditions both in France and in America makes of this foreword a substantial contribution to an exceedingly interesting volume.

UNCLE SAM GUARDS THE BORDERS

HARRY HULL

Commissioner General of Immigration

EACH year the population of the United States is substantially increased by the entry into the country of a large number of alien men, women and children. There was a time when there were few restrictions upon their entry into the country, but as time went on it was found desirable for economic and other reasons to limit the number that would be received. These restrictions have been increased from time to time, and their enforcement has called for a more and more effective agency for their administration.

The agencies whose duty it is to administer laws governing the admission of aliens are the Immigration Service, the Bureau of Immigration and the Department of Labor, and to them falls the task of guarding the ports of entry and the international borders, the latter through the Border Patrol. In the number of employees who make up the Immigration Service are hundreds who are affiliated with the organized labor movement through membership in unions of the National Federation of Federal Employees.

These loyal workers for Uncle Sam are confronted with a huge task which calls for unswerving devotion to a duty that in many instances is fraught with great personal danger. But nevertheless they carry on, and the record of their service is one of the finest in the Government.

The magnitude of their task is partially indicated in the number of aliens who apply for admission and whose cases must be studied to determine their fitness to live within our borders. During the last fiscal year 497,454 aliens applied for admission to the United States, and of this number 18,127 were rejected. The number of American citizens returning last year from foreign countries was 449,955. In addition to the above, over 57,000,000 persons crossed the land

borders, each entry of the same person being treated as a separate transaction, the citizens numbering 26,000,000 and the aliens 31,000,000. During the same year 41,474 vessels arriving at our seaports were boarded by immigration officers and 1,155,825 alien seamen were examined. To weed out the undesirables and to enforce the quota and other restrictions governing the importation of aliens requires an unceasing vigilance on the part of the personnel of the Immigration Service.

Whether at the seaports or at the Canadian or Mexican borders, the personnel of the Immigration Service must be ever on the alert. The applicant may be a man who is looking to this country as a land of opportunity and who comes prepared to assume the duties of citizenship. On the other hand, he may be a troublemaker or a criminal, or he may belong to certain classes that are proscribed by law. Each one must be made to prove his right to come into the country.

The statutes lay down many inhibitions on the entry of aliens. A man who is mentally or physically unfit, or who has a criminal record, is not allowed to enter. Likewise the law bars the individual who may become a public charge. The alien who applies for admission and is not a citizen of territory contiguous to our own must present a passport issued by the authorities of the country to which he owes allegiance, and then is allowed to come in if he is not found to be disqualified by the various immigration laws, always subject, of course, to the numerical limitations imposed upon the annual extent of immigration from the various countries.

The immigration station that is probably the best known is Ellis Island in New York harbor. Before April 20, 1890, immigrants arriving at the port were under the control of the State, but after that date they came under Federal control. The Ellis Island station has been used by the Government since January 1, 1892, and until inspection was inaugurated in European countries, virtually all aliens arriving at New York except first and second-class passed through the island for examination upon arrival from European ports. Over four-fifths of the total number of aliens who apply for entry into the United States at our seaports arrive at the port of New York.

The same vigilance is exercised at other ports up and down the Atlantic and the Pacific coasts, and to carry on the work elsewhere there are district headquarters maintained at Boston, Philadelphia, Baltimore, Portland, Me., Norfolk, Va., Jacksonville, Fla., New Orleans, Galveston, Tex., San Diego, Los Angeles, San Francisco, Portland, Oreg., and Seattle. In addition, there are stations at Honolulu, Hawaii, in Porto Rico, and in the Great Lakes district.

Along the Canadian and Mexican borders surveillance is maintained by the Border Patrol of the Immigration Service, which has functioned since July 1, 1924. From a personnel of 427 employees at the beginning, the organization has been expanded to a total of more than 800 members. On June 30, last, more than 700 senior patrol inspectors and patrol inspectors were engaged. The remainder

of the force consisted of assistant superintendents, chief patrol inspectors, motor mechanics, clerks, laborers, and janitors.

It is the duty of this patrol force to keep a constant watch on the points of possible illegal entry. They patrol mainly by automobile, on horseback, and afoot, nearly 400,000 miles having been covered in the past fiscal year in the manner last mentioned. During the last fiscal year, the Border Patrol of the Immigration Service covered 6,801,012 miles while on duty, more than double the total mileage of all roads in the United States.

At the ocean, lake or river ports the immigration force must not only examine applicants, but must be on the alert for those who have entered, or attempted to enter, illegally. In this connection, surveillance is maintained over seamen on foreign vessels. In the same way the Border Patrol at the land boundaries maintain a watch over those who enter, or attempt to enter, by any means through the areas between ports of entry. Their work is a dangerous one; the patrolmen have on many occasions challenged alien smugglers only to receive gunfire in return. They are trained when thus attacked to defend themselves by shooting fast and straight. They are under the strictest orders to shoot only in self defense. Since its organization, 13 members of the patrol have been killed while in the performance of their duty.

Members of the patrol are recruited by competitive examination from a fine type of manhood. Candidates are required to pass a written examination, and then satisfy a board on oral examination that they are qualified for the exacting duties of the Border Patrol. Before final acceptance, they must undergo physical examination by Government surgeons. If it is satisfactory, they enter upon a period of six months' probation, and at the end of that period are given permanent appointment if their services and conduct have measured up to a high standard; otherwise they are dropped from the rolls.

TO MY GUARDIAN ANGEL

Dear Spirit, I would make a tiny plea,
  Thou, who frequentest Heaven's court must know
The little rules of saintly courtesy,
  The niceties that vex my poor heart so.

In Earth's untutored ways I have been bred
  Well-meaning, but devoid of any grace,
I grieve to think that after I am dead
  I shall be rustic in that holy place.

Through thy wise teaching, Comrade, wilt thus please
  To verse me in the ways of Paradise,
That saints will be astonished at my ease
  Though God may have a twinkle in His Eyes!

MARY A. MCMAKIN.

LABOR'S PRINCIPLES OF SCIENTIFIC MANAGEMENT

GEOFFREY C. BROWN

Consulting Engineer, American Federation of Labor

WITHIN the past ten years or so there has been abundant evidence of an awakened interest throughout the American labor movement in the subject of scientific management. The American Federation of Labor, at its 1925 convention in Atlantic City, declared unreservedly for a policy of cooperation with progressive management in the elimination of industrial waste. Since that important declaration the minds of thoughtful trade-unionists have been directed increasingly to the problem of establishing in a definite way just what may be recognized as a suitable foundation for scientific management from Labor's standpoint.

Gradually, as a result of this aroused interest, such a basis has emerged. Progressive trade-unionists are very sure, for instance, that no system of management that addresses itself solely to the increased production of physical goods, neglecting in the meantime the human factor in production, can be seriously taken as scientific. Labor generally—now give immediate assent and quick support to a conception of scientific management that, first, recognizes the right of workers to organize into responsible trade unions; second, is just as much concerned with the welfare of the human beings engaged in manufacture as with the increased production of material goods; third, recognizes the potential value of the trade union as a constructive factor in production, and, fourth, is willing to participate in the setting up of joint union-management cooperative machinery directed to increased productivity within these conditions.

Sixteen principles of progressive management have been formulated.*

1. Recognition of trade-unionism and cooperation between labor and management in the elimination of waste.

2. Participation of workers in the subjective and creative sides of industry through the medium of the joint committee.

3. The systematic discovery by general investigation and joint research of the best way in which work should be performed.

4. Leadership of workers by the method of cooperation and instruction rather than that of coercion and drive. Rendering work as interesting as possible by keeping the worker intelligently informed as to the quality, quantity and cost of his daily performance.

---

*Most of these principles were presented first in an article entitled "The New Science of Management," appearing in the AMERICAN FEDERATIONIST for September, 1925. They have been reproduced in their original form in L. P. Alford's well-known book, "Laws of Management," pp. 32, 33 and 34. Ronald Press, New York City, 1928. In their present form they have been changed and amplified somewhat to meet more recent developments in management science.

5. The utmost possible standardization of tools, equipment, operations and products so as to permit maximum production.

6. The definite planning in advance, through the media of schedules, route cards, and charts of the movement of materials, tools, components, and finished product through all the stages of production.

7. The economical production and utilization of steam and electric power.

8. The proportional distribution of overhead expenses in terms of departments, processes and machines, and their subsequent allocation in proper amounts to each shop order, manufacturing lot, or other unit of production passing through manufacture.

9. The preparation of cost sheets showing the correct labor cost, material cost, and approximate overhead and expense incurred by different products.

10. The preparation of monthly profit and loss statements showing the comparative profit and loss, and general economic values of different products.

11. The intelligent forecasting and guidance of expenditures through waste and departmental budgets.

12. The systematic salvage of reclaimable waste material and the reclamation and utilization or sale of by-products.

13. Payment of the highest general wages compatible with an economic labor cost. If workers are organized, payment of whatever wage scale is established by agreement with accredited union representatives.

14. Maintenance of good illumination, ventilation, and working conditions as sanitary and attractive as the character of the work will admit.

15. Protection of workers against unemployment by plans of regularization, and by the setting up of unemployment reserve funds.

16. The scientific placement of workers—each worker in the place where he or she will work most contentedly and most effectively.

A scrutiny of these principles shows them to be in conformity with the best practice of scientific management, with, however, the humanistic aspect of industry more strongly emphasized than has been the rule hitherto in similar presentations. I believe this emphasis to be thoroughly justified by present tendencies in the progress of management science. The principles afford also a scientific basis for the numerous plans of union-management cooperation now in existence, or coming into existence, in many organized industries. Union-management cooperation is an established fact in our industrial life. This new development is here, and it is here to stay. It is no exaggeration to refer to it as the outstanding development in the recent evolution of industrial relations in America. As such it cannot have too clear a statement.

Finally, Labor's management principles are a direct challenge to industry. As intimated, they provide a common ground upon which management and organized labor can meet in a joint effort to discover a reasonable solution to present problems and difficulties. The solution in every case is there, but it requires patient investigation, in an atmosphere of mutual good will, to bring it out into the light. This is the scientific method. Organized labor stands ready to cooperate to the fullest degree in such a joint approach.

ENGINEERS WORK ON RIVER AND HARBOR IMPROVEMENT

DWIGHT F. JOHNS
Major, Corps of Engineers

IT IS considered pertinent and possibly productive of something of value to bring to the attention of the readers of this magazine the work of the Corps of Engineers of the United States Army in the improvement of rivers, harbors and waterways of this country.

For more than a hundred years a most extensive plane of contact between the civilians and the Army has been the river and harbor work of the Corps of Engineers. The extent of this contact is evident when we appreciate that the river and harbor districts embrace the entire country, and the district and division engineers maintain over fifty offices in the most important cities of the country. Besides bringing about this highly desirable contact with the civilian population, river and harbor work has the added advantage of furnishing invaluable training in the principles and practice of engineering. Moreover, it is unique in that it pays for itself in a dollar-and-cents return to the people of the Nation.

The Engineer Department is organized to carry on a nation-wide business exceeding $100,000,000 annually. Since this business affects the prosperity of every community tributary to or served by waterways, the Corps of Engineers has long exerted an important influence on the growth of every section of the country. The viewpoint of the Corps has been national rather than local. At the head of the Corps is, of course, the Chief of Engineers. The field work of the Department is conducted under the direction of eight senior officers of the rank of colonel or lieutenant colonel, each in charge of a territorial division. These divisions are the North Atlantic Division, with headquarters in New York City; the South Atlantic Division, located at Norfolk, Virginia; the Great Lakes Division, at Cleveland, Ohio; the Gulf of Mexico Division, with headquarters at New Orleans; the Upper Mississippi Valley Division at St. Louis, Missouri; the Lower Mississippi Valley Division, with offices in

Wilson Dam, Muscle Shoals, Ala.

Vicksburg; the North Pacific Division located at Portland Oregon, and the South Pacific Division, of which the headquarters are at San Francisco, California. Reporting to the Division Engineers are forty-six district engineers, each in charge of a territorial district. The districts are the executive agencies of the Engineer Department through which the division engineers control the field operations. To them is assigned, permanently or temporarily, the operating plant needed in executing their work. There is a permanent force, technical and clerical, at each district office located at the most important or centrally placed city in the district. There are field forces, both permanent and temporary, at such suboffices as the district may have, with the floating plant at dams or other works under construction, at locks and dams completed and in operation, on survey work and elsewhere as necessary. The district engineer plans the work necessary to carry out approved projects, estimates the funds needed from year to year and, after approval or modification of these plans and estimates by higher authority, carries out the work. He makes contracts, subject to the approval of the Chief of Engineers, and supervises their execution. He disburses or supervises the disbursement of money for work in his district. He makes surveys and special investigations as directed and enforces regulations affecting navigable waters of the United States.

The matter of enforcement of regulations affecting the navigable waters of the United States which has just been referred to is rather interesting. The Federal laws prescribe that no wharf, pier, bulkhead, etc., shall be built on any navigable water of the United States until the plans have been approved by the Secretary of War and permit for the construction has been issued. Similarly, no bridge or dam may be built over any navigable water of the United States until either Congress or the State Legislature has passed an act authorizing the construction, and the plans and location have been approved by the Chief of Engineers and the Secretary of War. A waterway constitutes a navigable water of the United States, within the meaning of the acts of Congress, when it forms by itself or by uniting with other waters a continuous highway over which trade and travel is, or may be, conducted between the States themselves or between the States and foreign countries. A waterway that lies wholly within the limits of a State and has no navigable connection with any navigable water outside of the boundaries of the State is a navigable water of the State, subject to regulation and control by State laws. It does not come within the jurisdiction of Congress nor of the laws enacted by Congress for the preservation and protection of navigable waters of the United States. The Secretary of War has delegated to the Chief of Engineers much of his authority to issue permits, and the Chief of Engineers, in turn, has delegated some of this authority to the division and district engineers so that they now issue the necessary permits for some of the private work in navigable streams.

Since the initial work of river and harbor improvement—the improvement of the Ohio River, inaugurated

by a small appropriation in 1824—something more than $1,000,000,000 has been expended on waterway improvement in the United States. Now let us see what benefits have resulted from this vast expenditure. In 1928 the water-borne commerce of the country amounted to over 500,000,000 tons. It is estimated that the annual savings in transportation costs resulting from the river and harbor improvements totals $600,000,000. We see then that the Federal expenditures for the improvement of rivers and harbors are a very profitable investment and contribute in a high degree to the growth and prosperity of our country.

Besides dredging there are other ways of improving the navigability of a river: regulation and canalization. By regulation is meant the process of so directing and assisting the natural forces of the river as to improve navigable conditions largely by concentrating the water into cross sections of navigable depths. Canalization improves navigation by breaking the slope of the river or of the stream into a series of pools at different elevations by means of a series of dams. The dams back up the water above them, increasing the depth and reducing the velocity of the current. **Locks**, which are chambers located in the dams, connected by gates with the pools above and below, provide the means of passage from pool to pool. Many rivers in this country have been either wholly or partially canalized. Two good examples are the Monongahela and the Allegheny Rivers, which unite at Pittsburgh to form the Ohio. The outstanding example, however, is the Ohio River itself, the work of canalization of which has just been completed. This project comprises some fifty locks and dams and affords slackwater navigation with a control depth of nine feet from Pittsburgh to Cairo, where the Ohio joins the Mississippi. As the Mississippi project below the mouth of the Ohio also has a controlling depth of nine feet, the completion of the Ohio locks and dams affords a minimum of nine feet from Pittsburgh to the Gulf of Mexico. Most of the dams on the Ohio are movable so that during periods of high water the dams can be lowered to the bottom and navigation can pass up and down the river without the delay of passing through the locks. This project was carried out under the Corps of Engineers.

Harbors are usually improved by dredging, both in the harbor itself and in the approach from the ocean to the harbor. In a harbor at the mouth of a river the limiting depth is usually across the bar at the entrance. As a silt-bearing river meets the ocean its velocity is reduced and sediment carried in suspension is deposited, forming a bar. The maintenance of deep channels through these bars is probably the greatest task connected with harbor improvement. In some cases the channels can be maintained by dredging, in others by the construction of jetties, which confine the waters of the river within a comparatively narrow channel until they have reached such a depth in the ocean that the deposit of silt can do little harm, while in still other cases the channel is maintained by a combination of jetties and dredging.

An open roadstead is protected from the wind and the sea and sometimes from injurious currents along the coast by breakwaters. Breakwaters have been used extensively on both coasts of the United States as well as in our insular possessions.

Navigable rivers and harbors are of no use unless adequate terminal facilities are provided for the shipping that uses the waterway. Frequently the improvement of a waterway is made conditional on the construction of suitable terminals by the local interests. The Board of Engineers for Rivers and Harbors, a permanent board of engineer officers who make careful studies of all proposed improvements and submit their recommendations to the Chief of Engineers, have as a special feature of their work the question of terminal facilities. Their office employs a number of experts who have compiled and are compiling a valuable series of pamphlets known as the "Port Series." Each of these pamphlets describes in detail a certain United States port or group of ports, giving data as to depths, channels, pilot fees, etc., and paying particular attention to the terminal facilities provided. The information given is of immense value to shippers and navigators, who can tell at a glance the conditions existing at each of our leading seaports.

Another important task which the Nation has entrusted to the War Department and the Corps of Engineers is the execution of the flood control project, in the alluvial valley of the Mississippi River, adopted by Congress by its act approved May 15, 1928. The Congress provided $325,000,000 to do the work. To date about $33,000,000 has been spent or committed, so the progress of the work is about in accord with the time set. This project involves the construction, strengthening and raising, and relocation of levees, the construction of spillways and floodways, and the placing of revetments to prevent bank caving and the destruction of levee lines. The organization for doing this flood control is of vast size. The president of the Mississippi River Commission, located at Vicksburg, Mississippi, is in charge of the work, under the direction of the Secretary of War and the supervision of the Chief of Engineers.

Only a few of the high spots have been touched upon in this article, but it is hoped that the importance and value of this work of the Corps of Engineers to the Nation has been pointed out and that the interest of the reader may have been aroused to the point that he will look further into the work of the Corps of Engineers as opportunity is afforded.

Ship Canal, Sault Ste. Marie, Mich.

STANDARDIZATION IN PUBLIC PERSONNEL ADMINISTRATION

LEWIS MERIAM

Associate Director, Institute of Government Research

THE National Federation of Federal Employees advocates standardization in the personnel administration of the National Government. In its efforts to secure standardization the Federation has the support of almost all independent students of public personnel administration. Why? The facts do not warrant a statement that the independent students are almost invariably on the side of the employees on every issue, for such is not the case. The real explanation is that sound, proper standardization is as much in the interest of the Government and of the public, the taxpaying public, as it is in the interest of the Government employees. That such is the case is apparent if we consider briefly what is meant by standardization.

To be standard a thing must be right for its purpose. When the persons responsible for the deliberate establishment of a standard approach their task, they study the purposes which the thing to be standardized must serve. The standard must meet those purposes with practical perfection. It must be practically right. That is the first step in standardization, studying the purposes to be served and developing a standard which will meet the purposes with practical perfection.

The second step is to bring all the units which are to serve the same purposes up to the standard. Absolute uniformity is, of course, impossible, but the units must conform to the standard within very close limits. In the mechanical arts the degree of variation from the standard can be reduced to less than a hair's breadth. In personnel administration the degree of tolerance for variations must be greater, but the principle remains the same.

Salary-fixing is the branch of public personnel administration in which standardization has of late years attracted most attention. The first step in salary standardization has been to study the position the salaries of which are to be fixed and to arrange them in classes so that all the positions which serve the same purposes are assembled in the same class. The positions in a class are substantially alike in respect to the duties and responsibilities involved and the qualifications requisite for the proper performance of those duties. By studying the duties and responsibilities the classifying agency, if reasonably able and intelligent, can establish at least the minimum standard qualifications which an employee must possess to fill a position satisfactorily. For some positions the requirement may be for a certain degree of manual skill or of physical strength, but more often the requirements are for a combination of skill, general education, technical training and experience. In some instances the extent to which the

employee or the candidate for employment possesses the requisite qualifications can be measured with a surprising degree of accuracy. In other cases the degree of tolerance must be greater because the measuring devices are less accurate.

When the class standards have been established, or the class specifications as they are more frequently termed, the next step is to fix the standard pay for positions in the class. No exact formula has ever been devised for fixing the standard salaries. It is doubtful if one can be, but that does not prevent the method from being a marked improvement over the old hit-and-miss method or lack of method, which scored more misses than hits with some over the target and others under it. The salary-fixing agency can get reasonably accurate data on many points that will enable it to fix the salaries far more accurately and justly than they were fixed in the past. What has the Government itself been paying? What are private employers paying for like work? Is the government able to recruit qualified workers for the salaries it has offered? Is it able to retain its able employees to a reasonable degree, or are its best people picked off by private employers soon after they have gained training and experience? Are the employees able to maintain a reasonable, decent American standard of living at the rate being paid? How do the salaries of these Government employees compare with those of other citizens doing work which although not exactly like that of the Government is broadly comparable with it? Are they able to maintain a standard of living comparable with that maintained by private citizens of comparable training and ability?

Ordinarily in Government personnel work the wise practice has been followed not of fixing one flat standard rate of pay but of fixing a standard range of pay with minimum, maximum and intermediate rates. This range permits of recognition of length of service and variations in individual efficiency. Although many of the efforts toward establishing efficiency rating systems have been ludicrous because they have been based on arbitrary rules without due consideration of facts, yet the hope remains that under an intelligent development of personnel standardization, real efficiency standards can be perfected for a large number of classes of positions. Here the need is for thorough detailed studies for each class of positions in the individual establishments where that class of work is being done.

Students of Government personnel administration and the rank and file of Government employees advocate this system of standardization not because it is perfect but because it is so much better than anything else which has yet been devised. Without it employees having no personal or political influence or employees under an inconsiderate, partial or impotent administrator may get far less than they are worth, less than the Government is willing to pay them if the facts of their situation were clearly and ably presented. On the other hand, employees with influence or employees under a resourceful, energetic and able administrator may get very much higher salaries for like work.

Under one type of administrator they may even get salaries which the Government would not be willing to pay if the facts were known to the responsible officials. Anyone who is familiar with what happened to Federal salaries during the World War knows how intolerable the old system was, how much the Government could have then saved if it had had an adequate system of salary standardization and, on the other hand, how much injustice to old employees could have been prevented had there been some fair and effective method for adjusting the salaries of old employees to changed conditions.

The fact that a sound system of salary standardization does provide a reasonably simple, workable method for adjusting salaries to changes in general conditions is one of its great merits.

The establishment of minimum entrance qualifications in the class specifications is necessary not only for salary standardization but also for the operation of what has long been termed in public personnel administration the merit system. That term came into existence in the great fight against the spoils system, and was used in contradistinction to it. Today the merit system is recognized as a method of personnel standardization. It is not simply a device for keeping out political pull in appointments; it is a device for seeing that the person appointed is actually up to minimum standards for the position. Here again the interests of the public and of the rank and file of the Government employees are in almost complete harmony. The public does not want an unqualified, incompetent employee put on the Government payroll. The rank and file of Government employees want no incompetents wished on them. They know that the incompetent, ineffective employee with political influence will draw the highest possible salary, and that they will have to do his work, or if they are working under him, suffer for his incompetence. People who do not know the Government service intimately can scarcely understand the keen desire of most Government employees for an effective application of the merit system. To them it is their main chance for a square deal, just as it is the main reliance of the public for an honest deal.

Not infrequently comes to Washington an administrator who is confident that as a picker of men he is vastly superior to the Civil Service Commission with all its red tape. Often he does not even bother to go to the Civil Service Commission and present to it clearly and fully his personnel problems. He knows the system will not work, and he is going to get round it just as much as he can. If he is a good picker of men—which frequently he is not—he forgets that his days in Washington are numbered and that his successor may be an ordinary politician. Just in so far as he has short-circuited the Civil Service Commission to get in his own pickings, his successor can use the device he has perfected to put in political employees. The only safety for the public lies in the establishment and maintenance of employment standards enforced through the best and most independent Civil Service Commission it can get. It sometimes seems as if the worst enemy the employment sys-

tem of the Government has is the able man who depends on his own personal ability independent of the system instead of devoting his strength and his ability to the improvement and perfection of a sound system which will live after him.

Standardization of requirements for entrance into positions and standardization of salaries do not alone give adequate protection either to the public or to the employees. The conditions of employment must be standardized.

Obviously salaries cannot be standardized unless the conditions of employment are likewise standardized. If two employees are doing substantially the same work and are receiving the same annual salary, their compensation is not standardized unless they have substantially the same conditions of labor. If one works a seven-hour day and the other an eight-hour day their hourly rates are not standardized even if their annual compensation has been fixed under a salary standardization act. If each employee is entitled to take thirty days annual leave each year provided his administrative superior approves, and one employee always is able to do so whenever he desires, whereas the other is rarely permitted to do so, the conditions are not standardized. They are not standardized if one employee is entitled to more leave with pay than another, whether it be sick leave or vacation leave.

Conditions are not standardized if one employee who has to travel for the Government has such an assignment that he can save money out of his subsistence allowance, whereas another traveling employee has an assignment that necessitates his paying part of his expenses out of his own pocket. The tendency has been toward uniform per diem allowances for expenses without due reference to the requirements of the assignment. Short trips to the great metropolitan centers involve far higher daily expense than do long stays in less expensive places.

Advocates of standardization of conditions of employment are often charged with urging absolute uniformity. They are met with the assertion that the needs of the public service cannot be made absolutely uniform. It will be pointed out, for example, that a seven-hour day in the departmental offices in Washington is practicable, whereas it would not work with custodial employees or with institutional workers in hospitals or boarding schools. Even if that is the fact, as it doubtless is in some instances, it is no argument against standardization. It means merely that the conditions of employment must be considered in arriving at standards. The heating plant engineers who have to work on a twelve-hour shift must have a standard rate that gives proper consideration to that important fact. It is obviously unjust to pay them no more than is paid like employees who work only eight hours. It is unjust to the public to fix uniform compensation on the basis of twelve hours' work if some of the employees are required to work only eight. Real standardization takes all these factors into consideration.

Real standardization, therefore, involves the collection and analysis of the pertinent facts and the develop-

ment of a system that gives due recognition to those facts. Opponents of standardization say that such a standardization is complicated. Their simple solution is to leave all these matters to the discretion of administrative officers. That removes all necessity for collecting facts and analyzing them. The responsible chief administrative officers in the central offices may not even have the facts. They may be known only to two or three persons in some remote section of the country. An isolated employee may be the victim of grave injustices and the facts of the case may never come to the attention of the nominally responsible administrative officer. On the other hand, some favored employee may have perquisites and privileges that make his position approach a sinecure, a grave injustice to the public, and yet the nominally responsible officer in Washington will have no real facts on the subject.

Take the matter of quarters, light, heat, subsistence, and other perquisites, for example. Try to get the real facts from the responsible administrators at Washington. You may be able to learn that each of two employees of the same class is provided with a furnished house, possibly even that each of the houses has six rooms. Then visit the two houses. In one case you may find an excellent house in a good state of repair, well furnished and comfortable, such a house as would be regarded as up to a proper standard for an employee of this class. The other house may be called a furnished house by courtesy. It is in poor repair, poorly furnished with few conveniences and fewer that are in working order. The condition of that house may explain why it is that the Government has a hard time to keep that position filled by a competent employee, just as the bad physical conditions in the Chicago post office explained the difficulty of keeping employees there. The quarters furnished employees must be standardized, and these standards must consider matters of health and sanitation. The Government from time to time studies housing and sanitation for its private citizens. Government officials and others cooperate in the movement for better homes in America. It is high time that the Government did a real job in studying the homes furnished its own field employees and in establishing proper minimum standards.

The danger is ever present that the Government will adopt uniform rules and regulations without facts. When the classification act was passed for the District of Columbia, the salaries were established for positions which did not provide quarters and other perquisites, with a provision that appropriate deductions should be made where quarters were furnished. When the provisions of this act were extended to the field services, in so far as they were applicable, this provision for deductions for quarters was applied without getting the facts and without real discrimination. In the Indian Service a furnished room was a furnished room, and furnished rooms were of equal value. The stenographer who worked at the agency office and who had an attractively furnished room at the employees' club was charged no more for her room with all its privacy than was the matron of the girls' dormitory whose du-

ties required her to sleep in a small room in the dormitory so that she would be at all times available. If a child should be sick in the night, job was to respond at once. The or if anything else should happen, her deductions for the privilege of occupying these rooms were the same. At one jurisdiction no house was available for the doctor. He occupied a small room in the hospital. His wife, who was the nurse, shared the same room with him. Both of them were thus immediately available for duty at all hours. From the salary of each of them was deducted the uniform charge for one furnished room, although they occupied the one room together. For the use of that one small room they paid about as much as the superintendent had to pay for a large house, beautifully located, well furnished and in excellent repair.

A real job in standardizing the personnel administration of the National Government requires the collection of a mass of facts, their careful analysis and the development of rules and regulations that meet the actual conditions. This work calls for a real personnel agency and real personnel men or women in the several departments and in the larger bureaus. It means putting as much brains and as much effort into the personnel administration of the Government of the United States as the Commonwealth of Australia has put into its personnel administration. Persons who want to get some concrete idea of what the Federation of Federal Employees is driving at, what the students of personnel administration are talking about, should examine the personnel code of Australia and the rules and regulations made in pursuance of it. There is personnel standardization based on a detailed study of the real facts. I hold no brief in favor of all Australia has done. I do not advocate copying them in detail. They have made an intelligent, enlightened, modern attack on their personnel problem. They have approached personnel standardization as we have approached mechanical standardization in industry.

In the United States in late years we have had Presidents who have been keenly interested in economy and efficiency in government. Financial administration, budget making, business practice and procedure, reorganization of the Government have all enlisted the active interests of Presidents. Among the students of Government administration are many who feel, as I do, that personnel administration transcends all these in its influence on the efficiency of government. Bad personnel administration, even mediocre personnel administration, can and often does, largely nullify the other advances. Good personnel administration could do more for real economy and efficiency in government than anything else, for the efficiency in Government work depends in an overwhelming degree on the men and women in the Government service. The United States awaits the day when a strong, able, resourceful President, with vision and imagination, will become vitally interested in personnel administration. The virgin field is ready to yield a rich harvest to him who works it.

COMMITTEE OF FIFTY ON SCIENTIFIC RESEARCH OF THE NATIONAL FEDERATION OF FEDERAL EMPLOYEES

A. F. WOODS

Director of Scientific Work, U. S. Department of Agriculture

MANY scientists in the Government service are anxious to do their full share in organization for economic advancement. Indicative of this is the fact that half a hundred of the foremost scientists in the service have recently accepted membership on the Committee of Fifty* on Scientific Research, recently authorized by the Executive Council of the National Federation of Federal Employees and appointed by National President Luther C. Steward.

The committee consists of the following:

Chairman, A. F. Woods, Director of Scientific Work, Department of Agriculture; W. W. Stockberger, Director, Office of Personnel and Business Administration; C. W. Warburton, Director of Extension Work, Department of Agriculture; W. G. Campbell, Director of Regulatory Work, Department of Agriculture; M. S. Eisenhower, Director of Information, Department of Agriculture; M. C. Merrill, Chief of Publications, Office of Information, Department of Agriculture; C. W. Boyle, Secretary's Office, Department of Agriculture; C. F. Marvin, Chief, Weather Bureau; C. C. Clark, Assistant Chief, Weather Bureau; R. H. Weightman, Senior Meteorologist and District Forecaster, Weather Bureau; B. Schwartz, Senior Zoologist, Bureau of Animal Industry; T. P. White, Senior Veterinarian, Bureau of Animal Industry; E. W. Sheets, Principal Animal Husbandman, Bureau of Animal Industry; L. A. Rogers, Chief, Division of Dairy Research Laboratories, Bureau of Dairy Industry; Ernest Kelly, Chief, Division of Market Milk Investigations, Bureau of Dairy Industry; A. J. Pieters, Senior Agronomist, Bureau of Plant Industry; F. V. Coville, Principal Botanist, Bureau of Plant Industry; R. Y. Stuart, Forester, Forest Service; Roy Headley, Assistant Forester, Forest Service; T. W. Norcross, Chief Engineer, Forest Service; H. G. Knight, Chief, Bureau of Chemistry and Soils; W. W. Skinner, Assistant Chief, Bureau of Chemistry and Soils; A. G. McCall, Chief of Soil Investigations, Bureau of Chemistry and Soils; W. H. Larrimer, Principal Entomologist, Bureau of Entomology; F. G. Ashbrook, Principal Biologist, Bureau of Biological Survey; W. B. Bell, Principal Biologist, Bureau of Biological Survey; S. H. McCrory, Chief, Division of Agricultural Engineering, Bureau of Public Roads; A. G. Bruce, Senior Highway Engineer, Bureau of Public Roads; H. R. Tolley, Assistant Chief, Bureau of Agricultural Economics; J. A. Becker, Acting Chairman, Crop Reporting Board, Bureau of Agricultural Economics; Miss Ruth O'Brien, Chief, Textile and Clothing Division, Bureau of Home Economics; D. R. Sasscer, Principal Entomologist, Plant Quarantine and Control Administration; S. B. Fracker, Principal Plant Quarantine Administrator, Plant Quarantine and Control Administration; J. W. T. Duvel, Chief, Grain Futures Administration; G. L. Bidwell, Chemist, Division of Food Control, Food, Drug and Insecticide Administration; B. Youngblood, Agricultural Economist, Office of Experiment Stations; W. H. Evans, Chief, Division of Insular Experiment Stations; M. C. Wilson, Senior Agriculturist, Office of Co-operative Extension Work; Miss C. R. Barnett, Librarian, Library, Department of Agriculture; J. M. Mehl, Assistant Chief, Grain Futures Administration; Will C. Barnes, Secretary, U. S. Geographic Board, Washington, D. C.; J. Franklin Meyer, Principal Physicist, Bureau of Standards, Department of Commerce; John W. Ginder, Superintendent, Architectural Engineering Division; E. J. Ayers, Chief Clerk, State Department; C. O. Townsend, Chief, Sugar Division, Tariff Commission; Walter P. Taylor, Senior Biologist, Bureau of Biological Survey, Tucson, Ariz.; H. F. Robinson, Supervising Engineer, Indian Affairs, Albuquerque, N. Mex.; Walter C. Mendenhall, Chief Geologist, Geological Survey, Interior Department; H. S. Bryant, Chief of Division of Correspondence and Documents, Smithsonian Institution, Washington, D. C.; Elizabeth Hopper, Assistant Librarian, Library, Department of Agriculture.

The objects of this committee are: (1) To promote in every feasible way scientific work in Government service. (2) To co-operate with the Committee of One Hundred on scientific research of the Amercian As-

sociation for the Advancement of Science. (3) To promote interest among professional and scientific men in the Government service in their own economic welfare, particularly their need for an economic organization.

Subcommittees of the Committee of Fifty have already been appointed as follows: Compensation, Classification, Leave and Retirement, Education in Service. One of the most important jobs before the committee is to follow the course of the legislation anticipated as a result of the report of the Field Survey Division of the Personnel Classification Board with special reference to the schedules affecting professional and scientific workers.

Investigation of educational privileges permitted to Government scientists located at or close to universities will also be undertaken by the Committee of Fifty's subcommittee on Education in Service. A comptroller's decision has recently made it impossible for such employees to take college courses which would increase their efficiency on official work. After the needed study it is anticipated that the committee will recommend desired remedial legislation covering this point.

The sabbatical year for travel, research and study is an intrinsic part of the educational system of most universities and colleges. A limited amount of educational leave for medical personnel is already provided for by the United States Veterans' Bureau, and perhaps other Governmental agencies. The Committee of Fifty, under a resolution adopted by the convention of the National Federation of Federal Employees at Sault Ste. Marie, Michigan, September, 1929, will give attention to the propriety of educational leave in the Government service. It is expected that the recommendations of the Committee will result in the adoption of a consistent policy of educational leave by the Government. In this way its professional and scientific personnel may be kept up to the highest pitch of efficiency.

Increased efficiency of management in the Government service, a more consistent policy of personnel administration, and a general elevation of standards of performance throughout the service so that the constructive contribution of the Government to the welfare of the country may be largely increased, are of intense, personal and official concern to the scientific and professional workers.

The traditional attitude of the American Federation of Labor is well known to be not only sympathetic to public education generally but specifically favorable to the advancement of scientific research in the Government service. This attitude was unequivocally expressed at the Atlantic City Convention of the Federation ("Report of Proceedings 39th Annual Convention of the American Federation of Labor," 1919, pp. 221, 319, 320) in the following words:

Whereas, Scientific research and the technical application of results of research form a fundamental basis upon which the development of our industries, manufacturing, agriculture, mining, and others must rest; and

Whereas, The productivity of in-

dustry is greatly increased by the technical application of the results of scientific research in physics, chemistry, biology, and geology, in engineering and agriculture, and in the related sciences; and the health and well being not only of the workers but of the whole population as well, are dependent upon advances in medicine and sanitation; so that the value of scientific advancement to the welfare of the nation is many times greater than the cost of the necessary research; and

Whereas, The increased productivity of industry resulting from scientific research is a most potent factor in the ever-increasing struggle of the workers to raise their standards of living, and the importance of this factor must steadily increase since there is a limit beyond which the average standard of living of the whole population cannot progress by the usual methods of readjustment, which limit can only be raised by research and the utilization of the results of research in industry; and

Whereas, There are numerous important and pressing problems of administration and regulation now faced by Federal, State and local governments, the wise solution of which depends upon scientific and technical research; and

Whereas, The war has brought home to all the nations engaged in it the overwhelming importance of science and technology to national welfare, whether in war or in peace, and not only is private initiative attempting to organize far-reaching research in these fields on a national scale, but in several countries governmental participation and support of such undertakings are already active; therefore be it

Resolved, By the American Federation of Labor in convention assembled that a broad program of scientific and technical research is of major importance to the national welfare and should be fostered in every way by the Federal Government, and that the activities of the Government itself in such research should be adequately and generously supported in order that the work may be greatly strengthened and extended; and the Secretary of the Federation is instructed to transmit copies of this resolution to the President of the United States, to the President pro tempore of the Senate, and to the Speaker of the House of Representatives.

This attitude on the part of the intelligent and powerful forces of organized labor is warmly appreciated by every alert professional and scientific man who has given thought to the matter. These scientists are not only glad but anxious to be of full service to the whole of the great American community, of which the organized workers are so important a part.

Standards of living, recreation, the leisure necessary for spiritual and educational advancement, lowered unit cost of production, increased purchasing power on the part of the workers, the progress of industry and the welfare of humanity, all these things are affected by the research activities of professional and scientific men. They intimately concern the life of every citizen.

Just as the hosts of organized labor have shown themselves to be alert and active in the interest of better facilities for scientific work and increased compensation for professional workers, there is an obvious and increasing number of scientific

men who appreciate that the welfare of science, education and standards of living generally is intimately bound up with the status of the workers. These scientists wish to do everything in their power to promote the interests of the wage workers. They are already doing this in numerous ways, through State, Government and private industry.

Replacement of some workers by machinery, while bringing about in some instances a difficult period of adjustment, will in the long run increase the leisure and raise the standard of living for all members of the community. Professional and scientific men should do all in their power to help tide over the transitional periods with a minimum of discomfort to their fellow workers.

According to Sumner and Keller, the modes of civilization are labor, knowledge and organization. To do their part, right thinking persons must participate in all three.

While science as a labor-saver has loomed large, the service of science as a producer of work and builder of opportunities has not perhaps been stressed as it should be. When we think of the great modern industries organized about the production of radio, telephone, electrical equipment, airplanes, automobiles, and similar modern manufactured articles of a hundred kinds, the enormous services of science in this regard become clear. Without science capital would be of little avail and opportunities for labor would be narrowly restricted.

There are thousands of scientists in the Government service. Their high standards of performance are perhaps sufficiently indicated by the fact that there is an ever-increasing turnover in this group due to private industry constantly drafting Government scientists for better paid outside jobs. Compensation standards for Government scientists are low indeed. The people in their collective capacity working through Government should strive to retain the services of the best in the country.

A careful analysis of results of research work that has been done by the United States Department of Agriculture shows that for every dollar expended for research there is an annual yield of $500. To state it another way, each dollar invested yields an annual return of 50,000 per cent. I leave it to the economists among the readers of this article to translate this into terms of human welfare.

It is vitally necessary to the maintenance of our mass production and mass consumption, to the conservation of our high standards of living, to the attainment of those high ideals of economic, industrial and spiritual life for which America stands, that mutual sympathy and effective cooperation should increase. In our program of progress nothing is more important than Science, "pilot of industry, conqueror of disease, multiplier of the harvest, explorer of the universe, revealer of nature's law, eternal guide to truth."

THE WEATHER BUREAU AND ITS SERVICE TO THE PEOPLE

CHARLES F. MARVIN

Chief, U. S. Weather Bureau

THE Weather Bureau came into being as a branch of the Signal Service of the War Department during 1870, under the provision of a joint resolution of Congress approved February 9, 1870. This resolution authorized the Secretary of War to take meteorological observations at military stations throughout the United States and its territories and to give notice by telegraph and marine signals of the approach and force of storms. This service was primarily for the benefit of navigation on the seacoast and the Great Lakes, but under a provision of the appropriation act approved June 10, 1872, it was extended so as to include the interior districts and the great rivers of the central valleys.

The benefits of the weather service were soon recognized by business industries and the general public. Although started primarily in the interest of navigation it became necessary to enlarge the scope of service to include agriculture and commerce and to extend the field of meteorological work and investigations. This enlargement of the original purposes and the important place it had earned in the business and civil life of the nation led to the conclusion that as a scientific bureau it could function better under civilian than under military control. Accordingly, on July 1, 1891, the Signal Service of the War Department was relieved of its meteorological duties and the Weather Bureau of the Department of Agriculture was organized and charged with the future of meteorology in the United States.

In the act of Congress transferring the meteorological work of the Signal Office to the Weather Bureau of the Department of Agriculture, approved October 1, 1890, the duties of the service are thus summarized:

The Chief of the Weather Bureau, under the direction of the Secretary of Agriculture, shall have charge of forecasting the weather; the issue of storm warnings; the display of weather and flood signals for the benefit of agriculture, commerce and navigation; the gaging and reporting of rivers, the maintenance and operation of seacoast telegraph lines and collection and transmission of marine intelligence for the benefit of commerce and navigation; the reporting of temperature and rainfall conditions for the cotton interests; the display of frost, cold-wave and other signals; the distribution of meteorological information in the interest of agriculture and commerce; and the taking of such meteorological observations as may be necessary to establish and record the climatic conditions of the United States, as are essential for the proper execution of the foregoing duties.

The major activities of the Bureau, conducted under the foregoing

authority, consist, basically, of the collection and dissemination of meteorological data and of the issuance and distribution of meteorological forecasts, warnings, and advices. They are administered by project leaders stationed at Washington, D. C., through the agency of a large field organization embracing more than two hundred permanent field headquarters located in every state of the Union, and elsewhere, and several thousand minor and cooperative stations with similar widespread geographical distribution. A brief description of the projects of work follows:

Meteorological observations and reports: This project of work is a fundamental activity upon which all other projects of the Bureau are dependent to some extent, however specialized. Regular observations, instrumental and visual, of the several elements of meteorological conditions, such as barometric pressure, temperature, rainfall, wind direction and velocity, cloudiness, etc., are taken regularly at all stations twice daily, at 8:00 a. m. and 8:00 p. m., E. S. T., and after being coded and forwarded by telegraph to New York and Chicago by means of a special system, are redistributed to stations as required throughout the country, all in less than 45 minutes. When special conditions warrant, observations at other times may be taken and forwarded to a designated center from selected points. The meteorological information contained in the observations is disseminated both locally at points of origin and elsewhere as required to meet public needs.

General forecasts and warnings: Meteorological data secured from observations are tabulated twice daily by expert chartmen and arranged to permit study and interpretation by experienced forecasters at district forecast centers located at Washington, D. C., Chicago, Ill., New Orleans, La., Denver, Colo., and San Francisco, Calif., at which forecasts and warnings of general surface and upper air weather conditions and of frost, cold waves, storms, and hurricanes, are issued by districts for the entire United States. Supplementing this work there are prepared local and specialized forecasts at both district centers and local forecast stations in the field to serve a number of widely different interests, such as shippers of perishable goods, concrete construction companies, street-cleaning departments, water power companies, and others.

Climatology: Under this head the Bureau utilizes for purposes of permanent record its great body of observational data, collected by thousands of cooperative observers as well as its regular field personnel distributed throughout the entire United States. Tabulation of daily meteorological values and their summation and interpretation by qualified climatologists, enable the presentation of a complete climatology of the country through the issue of monthly and annual bulletins. This record becomes correspondingly more valuable with the increase in number of years maintained. Climatological summaries are prepared in numerous forms to serve the needs of individuals, corporations, research workers and educators, as well as the general public.

Agricultural meteorology: To meet the need for authentic current information as to weather conditions prevailing over the principal agricultural sections of the country, from day to day and week to week, special weather services are maintained during the growing season of the principal crops. Observations are made each morning at some 400 places in the grain and cotton areas and these are collected by telegraph, prepared in bulletin form, and released within three hours. Thus farmers, and all others interested in the growth of crops as affected by the weather, are advised at frequent intervals of prevailing conditions. A weekly service is also maintained for each State and for the country as a whole whereby bulletins are published giving general summaries of the weather for the week as a whole and its effect on crop growth and farming operations in general; also special weekly bulletins are published showing weather conditions over the great grazing areas of the West as affecting the range.

River and flood service: This project provides, by means of river gage readings at selected points, an authoritative record of daily river stages on the principal navigable inland waters for use of navigators and numerous interests located contiguous to the rivers. Reports from many hundreds of rainfall stations situated throughout the important river drainage basins enable precipitation data to be obtained which, in conjunction with river stage observations, permit the issuance of river stage and flood forecasts covering a considerable period in advance. Mountain snowfall measurements in the West are conducted as a part of this activity and upon them are based estimates of the quantity of water available for irrigation, hydro-electric power production and municipal water supply.

Marine meteorology: Under this activity the Weather Bureau collects observations from ships at sea for the purpose of determining weather conditions over the oceans. Observations are made by masters and officers of the world's merchant marine, all nationalities cooperating, without compensation, but receiving pilot charts and other publications free of cost. The data collected are charted, compiled and studied in the interest of navigation and meteorology and form the basis of the meteorological information published on the pilot charts, issued by the Hydrographic Office, Navy Department, in cooperation with the Weather Bureau, under provisions of the Act of Congress approved June 16, 1910.

Forest fire weather warning service: For aid in preventing the inception and spread of forest fires, specialists are being employed in the heavily forested areas of the far Western States, the Upper Lake Region and New England. Surveys are made for determination of topography, elevation, ground covering, etc., as these affect wind direction and force and atmospheric humidity, and for the establishment and equipment of reporting stations necessary to furnish data of current local meteorological conditions. The foregoing preliminary work is followed by intensive, localized forecasts and warnings concerning meteorological con-

ditions in their relation to the fire hazard.

Aerological observations and reports: Observations of upper air conditions are made by means of kites, pilot balloons and sounding balloons. Daily kite flights are conducted, as regularly as practicable, at five special stations located in Indiana, North Dakota, Oklahoma, Texas, and South Carolina. On the average these kites reach a height of 3 kilometers (2 miles) and carry small self-recording instruments showing atmospheric pressure, temperature, humidity, and wind velocity and direction at all heights reached. Pilot balloons, 6 inches in diameter and inflated with hydrogen to 28 inches in diameter, are released at numerous sub-stations and observed by means of a theodolite, or modified form of transit. The balloons ascend at a constant known rate and the readings secured by the theodolite observer in azimuth and elevation circles permit of determination of wind direction and velocity at various heights. Sounding balloons are similar but larger than pilot balloons and carry light instruments. They ascend to heights not otherwise reached, in a few cases exceeding 30 kilometers (18 miles).

Aviation forecasts and warnings: Under this project simultaneous observations of the upper air are taken and transmitted by telegraph to district forecast centers located in Washington, D. C., Chicago, Ill., New Orleans, La., Denver, Colo., and San Francisco, Calif., where they are entered by chartmen on eight outline maps of the country, representing various heights, including surface and 250, 500, 1,000, 1,500, 2,000, 3,000, and 4,000 meters. These charts, in conjunction with other synoptic weather maps, enable qualified forecasters to issue what are designated as "flying weather forecasts" for certain zones and routes and serve as important aids to Government and general air navigation operations.

Commercial airways service: The Air Commerce Act of 1926 designates the Weather Bureau to furnish, upon recommendations from the Secretary of Commerce, such meteorological service as is required for safe and efficient flying operations on commercial airways designated as such by the Department of Commerce. To carry out the provisions of this act, there is being established a complete network of stations along and on each side of the designated airways by means of which frequent observations of meteorological conditions, both surface and upper air, may be taken and forwarded to certain selected key, or control, stations where the information is tabulated and charted to form the basis of advices and forecasts issued for the aid and protection of the pilots.

Aerological survey of the United States: This activity embraces the classification and summarization of aerological data for use in a variety of investigational studies including (1) a country-wide statistical compilation, giving in tables, graphs, and test the essential elements regarding upper air conditions in the United States; (2) investigations of the upper air conditions in cyclones and anticyclones to develop relationships between upper air conditions and the formation, movement, and other characteristics of these phenomena;

and (3) determination of diurnal variation of meteorological elements at various heights.

Employees

The conduct of the regular stations of observation outside of Washington and assignments of trained personnel to the airports on commercial airways requires the constant services of nearly a thousand commissioned employees, and the business conducted at the central office at Washington of about 230 commissioned employees. The annual disbursements of the Bureau for the fiscal year 1930 will amount to in excess of $4,000,000.

Appointments to the positions in the Weather Bureau are made only after examination and upon certification by the United States Civil Service Commission. Original appointments are, as a rule, to the lowest grades. During the expansion of meteorological service and advices to aviation in the past couple of years the Bureau has been appointing annually more than 100 junior observers in Meteorology at an entrance salary of $1,440 per annum, and it is expected that a similar number of appointments to this position will be effected for some time to come. Examinations for the position of junior observer are usually held semi-annually and are open to those who have attained their eighteenth birthday and have graduated from a full four-years' high-school course or have completed 14 units of work acceptable for college entrance, such education to have included the completion of one year's course in physics.

The Bureau also has need to recruit its more technically trained personnel from time to time through the junior meteorologist examination. The initial entrance salary of junior meteorologists is $2,000 per annum. Applicants for admittance to this examination must show that they have been graduated from a college or university of recognized standing, with major work in mathematics or physics.

Applicants for positions in the Weather Bureau should communicate directly with the U. S. Civil Service Commission, Washington, D. C., relative to the regulations governing examinations and the time and place of holding them.

For the Benefit of All

The Weather Bureau is maintained and conducted in the interest of all the people and the Chief of Bureau earnestly desires that the greatest possible use be made of the very large amount of meteorological data accumulated during the approximately 60 years of its existence, and that the widest possible distribution be given to the daily weather forecasts and warnings issued.

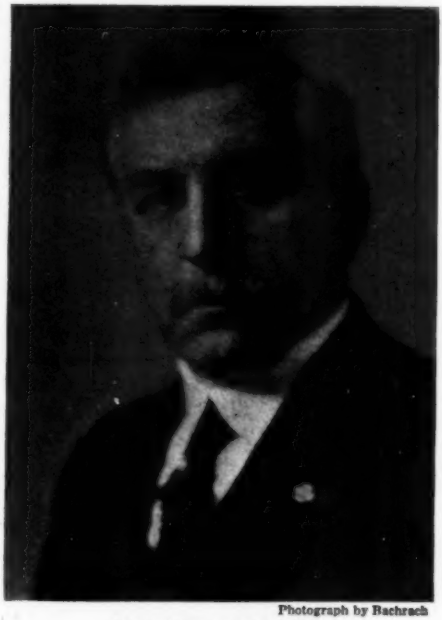
The numerous offices of the Bureau throughout the country are always open during business hours, and the public is cordially invited to visit them and avail itself of the information contained in the records there on file.

Information as to how the data and publications of the Bureau may be obtained and the steps necessary to secure the receipt of forecasts and warnings will be promptly furnished on request. Communications should be addressed to the "Chief, U. S. Weather Bureau, Washington, D. C."

UNITED STATES CUSTOMS SERVICE

F. X. A. EBLE
Commissioner of Customs

ONE of the most pressing needs confronting this Government immediately upon its organization was for adequate revenue. Accordingly, the second statute passed by the First Congress of the United States under the Constitution was the Tariff Act, approved July 4, 1789, which became effective August 1 of that year. No organization was provided in that act for its enforcement, but before the act became effective the Act of July 31, 1789, was passed establishing customs districts and ports of entry and providing for customs officers and certain methods to be employed in the collection of duties. Thus the Customs Service was one of the first administrative agencies to be established by law under the Constitution of the United States. Its creation does, as a matter of fact, antedate the Treasury Department itself.



Photograph by Bachrach

JOHN FITZGERALD
Customs Service, Brooklyn, N. Y.
First Vice President, National Federation of Federal Employees

The Treasury Department was established by the Act of September 2, 1789, section 2 of which authorized the Secretary of the Treasury to superintend the collection of the revenue. On July 31, 1789, an act was passed prescribing certain duties to be performed by collectors, surveyors and naval officers of customs.

Within a comparatively short time after this jurisdiction was conferred upon the Secretary it became evident that it would be impossible for him to supervise the detailed work of the customs officers and consequently an act was passed May 8, 1792, authorizing him to "direct the superintendence of the collection of duties on imports and tonnage as he should deem best." Accordingly the comptroller was directed to have immediate supervision of the collection of customs. Further enactments followed which provided broader general authority to the Secretary of the Treasury—additional customs dis-

tricts were created and the organic methods changed so as to meet the ever-increasing problems which have followed.

Customs laws are broadly divisible into two parts: First, the tariff or schedule of rates; and, second, the administrative provisions.

The rates are either specific, ad valorem or compound. Specific rates are based on weight, measure or count; ad valorem rates are based on value; and compound rates on both quantity and value. For many years the scope of the general tariff acts has been so complete that no article could be imported into the United States without falling within some provision of the tariff.

Sporagel & Herrmann

J. P. THOMPSON

Customs Service, San Francisco, Calif.

Fifth Vice President, National Federation of Federal Employees

The administrative part of the customs laws provides the machinery for the collection of the revenue. The first complete code of customs organization and procedure was contained in the Act of March 2, 1799, many of the provisions of which have continued in force until very recently. In fact, the administrative provisions of the Tariff Act of 1922 are the nearest approach since 1799 to a complete revision and codification of the customs administrative laws.

The Collector of Customs is the chief customs officer in each customs collection district, of which there are 47 at present. This number includes one in Alaska, one in Hawaii and one in Porto Rico. These officers are charged with the collection of the customs revenue and the enforcement of the customs laws, and such other duties as are prescribed by law and by the Secretary of the Treasury.

Appraisers of merchandise, or acting appraising officers are stationed at the various ports throughout the Service, whose duty it is to ascertain the value of imported merchandise as a basis for the assessment of duty.

Surveyors of customs are now located only at the larger ports, particularly those on the Atlantic and Pacific seaboard. A surveyor of customs has immediate charge of the inspectors, weighers, measurers and gaugers, and other outside forces of the Service. He is by statute, however, subject to the direction of the collector.

The officers formerly known as naval officers of customs have been designated comptrollers of customs, under section 523 of the Tariff Act of 1922. They are stationed at seven of the leading ports in the United States, and the jurisdiction of each comptroller of customs embraces from four to seven customs districts. Their principal duties are to examine

the collectors' accounts of receipts and disbursements of money and receipts and disposition of merchandise, and to verify all assessments of duties and allowances of drawbacks made by collectors in connection with the liquidation thereof.

Customs investigative work is performed by customs agents located at the principal ports in this country and treasury representatives stationed in foreign countries. Customs agents are largely employed in the detection and prevention of evasions and violations of the customs laws. Treasury representatives located in foreign countries are chiefly concerned with matters relating to the ascertainment of market values of various commodities.

The Reorganization Act of March 3, 1927, created a Bureau of Customs and placed the administration of the customs under the immediate supervision of the Commissioner of Customs. The organization at present consists of 91 officers and employees in the Bureau at Washington, and 9,482 officers and employees in the field service.

While there are many exceptions, according to the circumstances in each particular case, in general merchandise arriving in the United States must be entered at the port of importation, consular invoices produced or bond given for the production thereof, and estimated duties deposited. The merchandise is then examined and appraised by the appraising officer and report thereof made to the collector, who proceeds to classify the merchandise, apply the appropriate rate of duty (in accordance with the tariff schedules), liquidate the entry and collect the duty.

During the past fiscal year merchandise of every conceivable character and description, reaching a total value of more than $4,000,000,000, was imported into the United States from all parts of the world.

Approximately 9,500 employees are engaged in the field to properly protect the Government's interests and expeditiously handle this enormous volume of import business. When it is considered that articles ranging from hairpins and scientific implements to diamonds and machinery are constantly being imported, it will be understood that the task imposed upon customs officers and employees alike requires an unusual amount of skill and a broad knowledge of the customs laws and regulations.

Importation takes place when a vessel arrives at a port of entry intending there to discharge her cargo. It is from this moment until the merchandise reaches the possession of its owner that customs officers are required to protect the interests of the Government as well as the rights of the importer.

Upon arrival a vessel is boarded by an inspector of customs (designated boarding officer) for the purpose of surveying the ship's manifest and examining its papers. Inspectors are then assigned to the vessel to supervise the discharge of its cargo and examine passengers' baggage, if a steamer carrying passengers. In order that no contraband or merchandise may be illegally introduced into the commerce of the United States,

guards are stationed on board until the discharge is complete.

The merchandise having been unloaded, and estimated duties paid at the custom-house, it then becomes the duty of the inspector to designate certain packages or parts of shipments for examination and appraisement—the balance of the importation being delivered to the importer. The packages thus sent to the appraiser's stores are carefully examined and appraised at the value at which similar goods are freely offered for sale in the wholesale market of the country of exportation. Examiners engaged in this work must be experts and thoroughly familiar not alone with values but with the structure and content of various and sundry articles, as the amount finally to be paid under all ad valorem rates is based solely on value. Also the inspector whose duty it is to designate the packages for examination must exercise considerable judgment so as to insure the examination of a representative portion of the importation.

At the time the entry is made, and after the merchandise has been examined and appraised, again we find another task imposed upon customs employees which requires expert knowledge of the tariff, court rulings and department decisions—estimation of duties and liquidation of entries. This work is performed by entry clerks and liquidators whose duty it is to classify the merchandise, that is, to determine whether a certain article is to be considered a toy or musical instrument, as under the tariff schedules such articles bear different rates of duty.

It will be seen, therefore, that the duties of customs officers and employees cover a broad field, requiring not only a thorough knowledge of the laws and regulations governing the importation of merchandise, but judgment and tact of the highest order not usually required in the regular duties of most employees is essential. That these employees have served their Government efficiently and faithfully will be readily noted when it is considered that the entire personnel of the Customs Service has increased only slightly as compared with the enormous increase in the volume of business.

It will be of interest at this time to note that during the first year of the first tariff customs receipts amounted to approximately $2,500,000, whereas during the last fiscal year the receipts were in excess of $600,000,000.

Briefly, then, the Customs Service is one of the oldest administrative agencies of the Federal Government, having been in existence for 141 years, during which time it has functioned for the benefit of the importing public as well as the Government. That marked success and progress have followed this long career can only be attributed to the loyalty and efficiency of the employees, who have so faithfully and willingly devoted themselves to this Service.

FEDERAL EMPLOYEES IN FOREIGN COUNTRIES ORGANIZE

W. G. Voss

THROUGH the establishment, during the last year, of a local union at Paris, France, the National Federation of Federal Employees not only became truly international in its scope but also received into its organization family the Foreign Service employees as a group. These employees occupy a unique position among Government workers inasmuch as they are located far from home and being so distant from the seat of Government are peculiarly in need of group representation in Washington.

Representative, Bureau of Foreign and Domestic Commerce, traveling in India

The organization of the Paris union formally carried the movement into Europe. There had been scattered members there before, but no local union had been set up. Locals had been chartered in Alaska, Hawaii, the Philippine Islands, Port Rico, and the Panama Canal Zone. The union in Paris became at once the rallying point for the accession of a growing membership as far away from the French capital as the Balkan States.

The National Federation of Federal Employees was organized to apply the remedies of the labor movement to the personnel ills of the Federal Service, and in so doing it is called upon to deal with problems that are extremely diversified. The entrance of Foreign Service workers into the organization as a group brought still another set of problems that may best be understood by a brief analysis of their duties and conditions of service.

The duties of Foreign Service employees are very largely of a clerical character. These duties differ somewhat in the diplomatic and consular services, while in the consular service members of the clerical staffs are assigned to more responsible duties. As they become more experienced in the diplomatic service this is not the case.

In the main, the duties of the Foreign Service employee consist of stenographic work, record keeping and filing. Some of the more experienced clerks make visa examinations under the supervision of a superior officer, and in the consular service it

is a policy to detail members of the clerical staff to the gathering of trade information. There are instances also of experienced clerks being given the legal status of vice consul, though they receive no additional compensation.

There are conditions surrounding the work, however, which these employees are most anxious to remedy, and with this objective they have affiliated with the National Federation of Federal Employees so as to be represented before the legislative and administrative branches of the Government along with other Government workers. Composing this group are men and women who are outstanding examples of loyalty, efficiency, and intelligence, but they suffer from the same discrimination that has been visited upon their fellow employees at home.

One of the paramount issues, so far as the Government employee abroad is concerned, is that of needed salary adjustment. A small portion of the Federal workers outside the United States come within the purview of the Welch Act, but that does not include any of the employees of the State Department Foreign Service. As a result of inadequate compensation, the non-commissioned personnel of the diplomatic and consular services, stationed at the embassies, legations and consulates abroad, are faced with a serious economic problem which they aim to solve through organization.

Clerks are employed in the Foreign Service with an initial compensation ranging from $1,500 to $2,000. Payment begins on the date of departure for the post to which they have been assigned. While the Government pays the employee's transportation expenses under certain regulations when leaving the United states, these expenses are not payable for the return trip unless the employee has served two years.

It will be immediately apparent that salaries are miserably inadequate. The State Department, indeed, refuses to send any married clerks abroad. Appointment is restricted to those who are unmarried and without dependents, on the ground that it is seldom found practicable to compensate employees sufficiently to justify the appointment of married men. The appropriation for transportation likewise is not sufficient to permit the payment of transportation of wives and families of clerks in the foreign service.

Those appointed to clerical positions abroad must be 21 years of age and not older than 35. The Department at present is particularly anxious to obtain employees who are stenographers and have a knowledge of the language of the country to which they are sent.

The Foreign Service employees were excluded from the Rogers Act, which cared for the commissioned or career personnel of the service. As already indicated they also were specifically barred from enjoying the benefits of the Welch Act, which adjusted salaries for all employees who came within the classified services. The apparent reason for this discrimination was that other legislation which is still pending would satisfy the needs of the Government worker in the foreign service who was seeking a minimum living salary, regular

promotion and recognition for length of service and duty well performed. The Linthicum Bill is one of the measures which Foreign Service employees would like to see passed so as to provide the remedies which they seek.

In supporting legislation, however, the Foreign Service employees found, as other Federal employees have, that they needed stronger representation. As time went on, and they remained without relief, several members of the group sensed the advantages of organization. Word was sent out among employees of the Paris embassy and to members of the office staffs of other Foreign Service posts, that the employees composing this group had made up their minds to organize. Correspondence was begun with the headquarters of the National Federation of Federal Employees at Washington in the fall of 1928, and after the groundwork had been laid for the step toward affiliation, a meeting was called at the Paris embassy on March 15, 1929. It was decided to apply for a charter in the National Federation and the entire personnel of the non-commissioned staff of the embassy signified their intention of joining.

The first meeting was attended by 17 clerks. Eight others who were unable to be present sent word that they could be counted upon to join. The result was the launching of Local Union No. 349, with a membership of 100 per cent of the Paris embassy staff. A charter was granted by the National Federation on March 29 and was received at Paris on April 11.

Temporary officers had been elected, and at the second meeting on April 11 a legal and by-laws committee was appointed to draft a constitution and by-laws. The constitution was adopted on May 8 and the by-laws at the fourth meeting on May 15.

Although the union was established at Paris, it has been almost from the beginning European in its scope. The following countries, in addition to France, appear on its roster: England, Spain, Hungary, Austria, Italy, Albania, Poland, Greece, Turkey, Latvia, and Roumania.

Having real problems calling for speedy solutions, the Paris union has been characterized from its inception by the greatest activity. Its scattered membership necessitated a medium for disseminating information regarding the activities of the union. Three months after the local was chartered, there appeared "The Foreign Service Employee," an official magazine which was published in mimeographed form from June to September, 1929, and in printed form beginning with the October issue.

This publication has been eminently useful in keeping the membership informed of the aims and progress of the organization. In its pages are discussions of legislation in which the union is interested, personal mention of its members, and continuous emphasis on organization as the salvation of the foregin service worker. Since the members have their own peculiar living problem, the magazine carries information concerning the canteen through which Americans may purchase products made in the States.

Local No. 349 lost no time in taking full advantage of its affiliation with the National Federation of Fed-

eral Employees, as evidenced by the introduction of two resolutions in the national convention held last fall at Sault Ste. Marie, Mich., which were favorably acted upon by the convention.

One resolution, aimed at extending the legislative benefits received by the members of other groups of Federal employees to those abroad, follows:

"Whereas, The Foreign Service employees have in the past been ignored and passed over in all bills and resolutions which have come before the Congress of the United States, and

"Whereas, The Paris Local No. 349, represents at this convention Foreign Service employees all over the world,

"Be it resolved, That when practicable, all benefits which shall accrue to employees of other branches or services of the United States Government, from action taken by the National Federation of Federal Employees, shall be extended to all federal employees outside the continental limits of the United States, its insular and island possessions."

This resolution summarizes succinctly the plea of the Government worker abroad and his attitude toward the situation that he hopes to right through affiliation with other workers in the labor movement. Another resolution, proposed by the Paris local and adopted by the convention, called for legislation to include under the provisions of the Welch salary act "all civil employees in the diplomatic and consular service of the United States."

The Foreign Service employee is faced with a set of peculiar problems. He is far from his own country and must live under conditions which often are quite different from those at home. Recognizing this situation as one that must be cleared up not only for the benefit of the employee but for the greater efficiency of the service as well, the Paris local has set to work to achieve a program which takes cognizance of conditions peculiar to the work of the government abroad.

In this program are well reflected the urgent problems of the Foreign Service employee. As formulated by the Paris union, it contains the following items:

Salary scales based on American standards of living and fixed with recognition of long periods away from home, of the right of Foreign Service employees to marry and have their children brought up in an American manner, and giving proper credit for knowledge of foreign countries, and of the technical and confidential duties performed.

A livable minimum entrance salary.

Periodic increases in pay of all efficient employees.

Assurance that a more responsible position will bring increased salary.

Transportation to the United States at stated intervals, wives and children to be included.

Post allowances where required.

Optional retirement and pension provisions.

A board of appeals before which any clerk may appear, and to which he may directly appeal in writing.

All that the Foreign Service employee asks is that consideration be given the strong contrast between his situation and that of the worker at home. He cannot take his appeal in

person to Washington and so he has wisely chosen to delegate that task to an organization that exists for the benefit of Government employees everywhere.

Experience has taught the Federal employee in foreign countries that he can expect little change in conditions if he does not seek it himself. He has learned his lesson from his fellow workers and as a result organization is spreading over Europe and has even made a beginning in South America. It is destined in the near future to penetrate into Asia, with the result that the National Federation of Federal Employees will be following the flag and it may be said that the sun will never set upon its slogan, "One for all, All for One."

INTERIOR

I love winter evenings steaming white with fog,
And the boat horns baying and gasping from the river,
Reiterating desperately their deep-throated largo
Of beseechings and urgent warnings and lamentations
Till the room we sit in so carelessly seems the cabin of a ship
Borne dangerously down time's dark treacherous waste,
Perhaps lost
With all its lights, its yellow tulips, its white chimney-piece,
Its various cargo of books, prints, vain mirrors, frivolous colors;

And our two minds with their fantastic perishable freight
Of hopes, ambitions, longings, their prides, their hates——
All their curious attachments and inventions;
And of love, beautiful and dangerous,
More frail and more at the mercy of time's clumsy indifferent hand
Than yellow tulips of blue Venetian glass.

CLARA SHANAFELT.

LABOR AND THE PRESS

A. L. G.

HERBERT HOOVER
President of the United States

"If we want civilization to march forward toward higher economic standards, to moral and spiritual ideals, it will march only on the feet of healthy children."

DR. HARRY E. BARNARD
Director of the White House Conference on Child Health and Protection.

"No phase of child life has been studied more carefully than that of child labor, and much of the work of the past has been directed toward the enactment of legislation for the protection of the child against exploitation by industry."

THE AMERICAN CHILD
A monthly bulletin of the National Child Labor Committee

"There is no more reliable measure of a nation's social progress than the care which it bestows upon its children. . . . Surely the elimination of child labor and the creation of wider opportunities for child development are aims worthy of all the skill and intelligence which the people of America can give."

DR. FELIX ADLER
Founder of New York Society for Ethical Culture

"The children must be saved for the sake of the Nation."

LEE T. CASEY
In the *Denver News*

"Regardless of the manner in which they earn their livelihood, the men and women and children of America are all infinitely safer and more prosperous and happier than they could possibly have been were it not for the existence of union labor as an important factor in the life of the Nation."

JAMES J. DAVIS
Secretary of Labor

"There is no greater duty we can perform than to protect childhood from premature employment and in providing adequate educational facilities both for academic and vocational training for our young people."

SPENCER MILLER, JR.
Secretary, Workers Education Bureau

"The contribution of American Labor to the establishment of our great system of public schools is a matter of record—the unwavering championship of labor in behalf of the child life of the Nation is a matter which any impartial examination of the records also reveals."

OWEN R. LOVEJOY
Secretary, Children's Aid Society

"Two million men and women are standing along the highways of our industrial procession to watch 2,000,000 child laborers give a new significance to the fact of unemployment. . . . It seems a curious contradiction that at the very moment when science is giving such intensive study to the culture of the individual child, industry, commerce and agriculture should continue to feed children wholesale into the hoppers of our wage-earning national expansion."

FRANKLIN D. ROOSEVELT
Governor of New York

"I have seen factories that have moved South. I have seen Northern mills that have gone South, and I have seen the conditions of employment that they have set up in those mills, not just for children, but for men and women grown, as well; and I want to tell you that the time will come when public opinion in the South, when the growth of education of the average citizen in the South is going to bring the laws and the standards of the South on a par with the laws and the standards of the North."

SUPERIOR (WIS.)
Journal

"Union labor of the more progressive North has in the past undertaken some great and sometimes dubious experiments in the matter of betterments for the common worker, and for the most part has succeeded nobly in putting millions of workers on higher planes of living."

MYERS Y. COOPER
Governor of Ohio

"Homes of comfort, education for children, sufficient time for recreation, improvement of working conditions conducive to maintenance of good health, compensation with due frugality, and a sensible practice of thrift that not only provides the necessaries of life, but a fair share of luxuries and that insures against the inevitable rainy day—these are the elementary things for which Labor takes its stand and these are the definite elements in our national life which are entitled to sympathy and support if America is to make true progress."

M. E. TRACY
In the *New York Telegram*

"While accomplishing much in the field of higher wages and improved living conditions, the American Federation of Labor has accomplished far more in the field of straight thinking. It has won a revolution without disturbing our political ideals and without altering, or attempting to alter, one fundamental principle on which the American Republic was established. That is something which no labor movement in the world can claim."

MERRYLE S. RUKEYSER
In the *New York American*

"If there is anything in the American doctrine that high wages lay the basis for prosperity, then the South, too, ought to be converted to this economic viewpoint. The transition to the newer viewpoint can doubtless be facilitated by intelligent organizing of the workers of the South. The real prosperity of the South will be enormously enhanced when it learns to charge more for its human resources."

PETER IVOR McARDLE
In the *International Engineer*

"The social and industrial unrest manifested by the workers in the unorganized industries of the South can only be interpreted as an expression of a deep-seated desire to secure and enjoy higher wages, proper and humane conditions of employment, and the exercise of economic, industrial and social freedom."

THE BIOLOGICAL SURVEY

"Guardian of Uncle Sam's Wild Life Resources"

PAUL G. REDINGTON
Chief

FARMING is ordinarily thought of as embracing only the raising of wheat, corn, and other field crops, and the propagation of domestic live stock of various kinds. As a matter of fact, however, agriculture in a broader sense includes a wide range of wild-life interests that supplement the strictly farming enterprises and largely increase the economic and recreational resources of the country.

Harris & Ewing

WALTER P. TAYLOR
Biological Survey, Tucson, Ariz.
Eighth Vice President, National Federation of Federal Employees

The United States Government, as early as the year 1885, began to give serious consideration to these natural wild-life assets, establishing in that year a rather modest office in what corresponded to the present Department of Agriculture to undertake the sudy of the relationships of wild birds to agriculture. This office has evolved into the present Bureau of Biological Survey, which is responsible under the law for the maintenance of mammal and bird reservations, studies of food habits of birds and mammals, including the suppression of predatory animal and rodent pests, studies in the production of fur-bearing animals, biological investigations of wild life as related to forests, grazing ranges, and farms, protection of migratory birds, studies of the reindeer industry in Alaska, acquisition and maintenance of a wild-life refuge along the Upper Mississippi River, establishment of a suitable refuge for wild fowl in the important Bear River area, Great Salt Lake, Utah, and the acquisition throughout the entire country, of refuge areas and breeding grounds for the conservation and increase of migratory birds.

All the work of the Bureau may be roughly classified under four heads: (1) Research, (2) suppression of harmful forms of wild life, (3) conservation and increase of valuable and beneficial species, and (4) enforce-

ment of Federal laws having to do with the protection and increase of migratory birds, interstate shipment of wild animals, and the regulation of importations of foreign wild birds and animals.

Whereas the pioneers of our country gave little thought to the future of this vast wild natural resource, it was inevitable that the expansion of settlement should emphasize its importance. The progress of civilization was marked by the extermination of the passenger pigeon and the disappearance, in the wild state, of the buffalo. Important upland game species were likewise extirpated over wide areas. On the other hand, pests of local or widespread importance rapidly adjusted themselves to the new conditions and became more and more a problem to the settler. The coyote, wolf, bobcat, and mountain lion preyed on both the live stock and on the valuable wild game. The field mice, ground squirrels, pocket gophers, prairie dogs, and jack rabbits attacked field crops and orchards and reduced the productivity of the new stock pastures.

The need for a broad and businesslike program of wild-life management, including local control of injurious species, and protection and increase of beneficial kinds, was never more insistent than at the present time. The Biological Survey, in cooperation with the States, is addressing itself vigorously to this problem that is so complex and far reaching in its consequences.

Through research the scientists of the Bureau are acquiring information on the habits and life histories of the various species of game animals, birds and rodents. Such information is obviously necessary as a basis for proper administrative procedure. The scientists are also giving close attention to the best and safest means of suppression of pests and to methods promoting the increase of valuable kinds of birds and animals.

The activities for the control of harmful predatory creatures and rodents are now organized on an extended scale. More than half a million dollars is appropriated by Congress for co-operation with the States in this field alone. Through co-operative funds provided by States, counties, and other agencies, more than $1,800,000 additional has been provided for the control work in the fiscal year 1930.

Leaders in forest and range management have found that animal problems loom large in these increasingly important fields. Birds help to protect the forests and valuable forage plants from insects. Predatory animals help to hold back harmful rodents, but also destroy valuable wild life. Some of the rodents are valuable as seed planters and consumers of insects, others feed on seeds and young trees and do a good deal of damage. Most of them play mixed rôles, doing good at certain times, harm at others. Wild life, forest, and grazing range problems are many and their solution is difficult. The Biological Survey, under authorization of the McSweeney-McNary Forestry Research Act, is giving attention to these problems, the solution of which is so important to the forest and live stock and wild game interests.

An increasing amount of time and attention is being given to the build-

ing up of our beneficial wild life, including insect-eating birds, wild ducks, and other waterfowl, many other species of wild game, both birds and mammals, and valuable rodents and fur-bearers.

No less than 85 wild-life reservations are at present under the supervision of the Biological Survey. Several projects of large size and of first rank in importance are well under way. One of these is the Upper Mississippi River Wild Life and Fish Refuge, which is already affording much needed protection to the natural resources of 300 miles of the Upper Mississippi River between Winona, Minn., and Rock Island, Ill. Another is the Bear River Refuge, key to the supply of ducks and other waterfowl over vast areas in the West. A third, and one of the greatest of all, is the Norbeck-Andresen Migratory Bird Conservation Act, which was passed during the Seventieth Congress, and signed by the President on February 18, 1929. This act provides for the purchase of suitable areas throughout the country for feeding, nesting, and resting grounds for wild ducks and other migratory waterfowl.

Some of the national and private resources directly and indirectly affected by the work of the Bureau are as follows:

Forest Resources, Public and Private, Throughout the Country—Insectivorous birds help to protect the trees; seed-eaters often help plant valuable trees and shrubs; wild game is valuable as a forest crop, but may destroy young trees; rodents may harm growing trees and shrubs, but some rodents are valuable seed planters, others eat harmful insects and some produce valuable fur; predatory creatures destroy valuable game and harmful rodents, their indirect influence on trees being almost wholly beneficial.

Forage Resources on the Grazing Range — As with forest resources, birds as a class help to hold insect pests in check, and to disseminate forage plants; upland game birds, deer, and antelope, are valuable range products; rodents consume vast quantities of valuable forage plants; burrowing species cultivate the soil, at times promoting erosion, at others helping make the soil a better medium for absorption of moisture and for plant growth; other rodents are consumers of insects; some predatory creatures attack live stock and destroy valuable wild game, but they also hold the rodents in check; some function as insect-eaters and others are valuable fur-bearers.

Live Stock Production — Wild game, especially antelope, deer, and elk, may come into competition with live stock for food and range; rodents consume feed otherwise available to live stock; insectivorous birds help to protect the feed of domestic stock; predatory animals may feed on lambs, calves, or colts, but also serve as something of a check on range-destroying rodents.

General Farming — In general, birds are excellent friends of the farmer; they help to protect his crops from harmful insects and rodents; wild game may be a valued asset or a destroyer of farm crops; rodents are usually farm pests of first magnitude, though insectivorous species

may help to prevent insect plagues; predatory creatures assist in eating insects and help hold down the number of rodents, but also consume valuable game species, poultry, and livestock.

Wild Life and Recreation—The automobile and other rapid and efficient means of transportation make the woods and outdoors increasingly accessible to the general public. Wild species, including interesting birds and animals, are among the most attractive features of recreational areas.

The Personnel—The varied personnel of the Biological Survey is made up of the administrative, clerical, and fiscal officers, who carry on the strictly administrative features of the work of the Bureau; scientists, including naturalists, ecologists, ornithologists, mammalogists, taxonomists, chemists, pathologists, botanists, entomologists, and zoologists, who conduct the research activities; field men, trappers, and hunters, who help to hold the range, forest, and farm pests to proper numbers; editors, who see that publications are put in proper form; game protectors, who enforce the Federal Migratory Bird Treaty Act, and other protective legislation; reservation wardens, who care for the wild-life reservations; engineers, who help construct the necessary roads, trails, works, and dams involved in some of the refuges under the Survey's control; fur-farm specialists, who study rabbits, foxes, martens, muskrats, and other valuable fur-bearers; lawyers, who assist in keeping the legal aspects up to date, and inspectors, who check on importations of foreign birds and mammals.

Of this staff many are enthusiastic members of the National Federation of Federal Employees, doing their utmost to make real the ideal of "One for All, All for One," and to make the Government more and more serviceable to the taxpayers. It is felt that an excellent morale permeates the entire Bureau personnel, a feature that augurs well for the future effectiveness of the research and service program of the Biological Survey.

LONELY THINGS

Somehow, I love old things, forsaken, sad:
Like twisted oaks wrapped close with Spanish moss,
Like bent old women clutching at their shawls;
Stark skeletons of battleships in dock,
Each mast uplifted to the silent sky
As lonely as a prayer sent up to Heaven.
I have a reverence for ancient walls
That stumble down the corridors of Time
As aged men, once bulwarks of the State.
I love the melancholy of a house
Long vacant, shutters closed like lidded eyes,
And gables prostrate now as kneeling nuns.
The air is holy round old lonely things,
The breath of primal gods, with broken wings.

MARCIA LEWIS LEACH.

ACTIVITIES OF THE BUREAU OF ANIMAL INDUSTRY

JOHN R. MOHLER

Chief, Bureau of Animal Industry

THE protection and development of an industry valued at seven billion dollars is the function of the Bureau of Animal Industry of the U. S. Department of Agriculture. Its activities are directed largely toward the upbuilding of the livestock industry through the scientific development of beneficial methods for animal production and the inspection of meat and meat food products.

This work is done by some 4,200 employees, 90 per cent of whom are stationed outside of Washington, principally at the important market centers or in the large livestock-producing areas. A large number of these workers are affiliated with the National Federation of Federal Employees, finding in its organization activities opportunities for improving the conditions surrounding their work and generally benefiting the public service.

The Bureau's activities are broad in their scope and in many instances are carried on in cooperation with State and local officials, livestock organizations, scientific research workers, and others who have the betterment of the livestock industry as their objective. It functions to protect the industry through the eradication of animal diseases, and in this connection conducts extensive experimentation on farms and in laboratories to develop a constantly improved technique.

An important function is the inspection of imported animals and supervision over those which are exported. A close inspection is made also at public stockyards to detect infectious and contagious diseases in animals brought into these market centers.

So far, the Bureau of Animal Industry has been succeeding in achieving a notable record of accomplishment, and as a result of its activities protection has been afforded to human life and millions of dollars saved in the animals and products involved in the livestock industry. Accomplishment of this protection to life and property has entailed the organization of a high type of personnel including a large number of veterinarians who are skilled in the diagnosis of animal diseases and the application of the preventive measures which science has devised.

A few of the achievements of the Bureau will serve to indicate the great value of its activity. The first accomplishment was the stamping out of contagious pleuropneumonia, for many years the cause of heavy losses in cattle herds of the Eastern States. Next the Bureau directed its efforts toward the establishment of an effective system of meat inspection, and so thoroughly has it been organized that it has received a very high recognition abroad as well as in this country. From time to time, animal dis-

"WHEN I WAS A SWITCHMAN"

THE successful man doesn't live who can resist talking about his first jobs. His pride in them never dies.

And why not, since every job held now means another job well done.

That is what Baltimore & Ohio service and success are based on . . . an honest pride in jobs well done.

And this spirit evidences itself in the "will to please" in the daily contact we have with our patrons.

BALTIMORE & OHIO

eases have threatened the loss of millions of dollars but for the most part have been kept under control and in some instances entirely eradicated. A notable instance of the Bureau's work in this respect was its suppression of six outbreaks of foot-and-mouth disease in domestic animals, with the result that this plague was completely eradicated in each case.

Since its establishment by Act of Congress in 1884, the Bureau of Animal Industry has been expanded to cover a broad scope of activity, in view of the needs occasioned by the huge number of domestic animals including approximately 180,000,000 of economic importance. This number consists largely of cattle, horses, hogs and sheep. In addition, there are about 400,000,000 poultry included in the country's resources. To develop these domestic animals to be of greater usefulness calls for a program of helpfulness to stock raisers as well as those who prepare various animal products for marketing. And these include not only meats but hides, fertilizer, wool and a hundred and one other commodities made from livestock.

In each division of the Bureau reposes a definite function of a research or regulatory character. If it is investigation or experimentation in feeding, breeding or management of livestock and poultry that is involved, the work is performed by the Animal Husbandry Division. When the problem is one of biochemical and bacteriological research concerning meat products, diseases of animals and disinfectants it is placed for solution with the Biochemic Division.

An experiment station is maintained at Bethesda, Md., just outside of Washington, where the causes and methods of control of animal diseases are studied. This station supplies facilities for disease-control work in addition to the laboratories maintained by the Bureau, and raises most of the small animals used in the Bureau's laboratories in Washington to establish facts in the study of animal diseases.

Regulations governing the interstate movement of domestic animals and the importation of livestock, skins and hides, animal by-products and feed are administered by the Field Inspection Division, which endeavors to prevent the spread of communicable diseases from one State to another as well as their introduction from foreign countries. Hog-cholera control is the function of still another division which investigates outbreaks of this disease and other ailments of swine, and conducts field work for their suppression.

One of the most important divisions is that which administers the Federal laws governing meat inspection. This work covers the slaughtering of animals at establishments that distribute meat or meat food products to other States or to foreign countries. The Meat Inspection Division also supervises the processes of curing, canning, labeling, packing, or otherwise preparing animal products at these establishments. It is the duty of this Division to condemn and properly dispose of carcasses and products found to be unfit for human consumption.

In the Pathological Division are conducted laboratory studies of animal diseases such as anthrax, dourine, rabies, glanders, tuberculosis, swamp fever and poultry maladies. Biological products for interstate shipment are examined to determine whether they are properly prepared and satisfactory for the treatment of animal diseases.

Tick eradication is the objective of the Division bearing that name. The work has been in progress since 1906, successfully combatting the losses which for years had retarded the cattle industry. Similar work is performed with regard to tuberculosis eradication by another division devoted entirely to the elimination of tuberculosis from the livestock herds of the country. Animals that show contamination are condemned and killed under Federal inspection, and public funds are provided to indemnify the owners of these animals.

The Division of Virus-Cerum Control supervises the preparation of veterinary biological products for the cure or prevention of livestock diseases. In the Zoological Division is performed the work of identifying and classifying the parasites that infest livestock, some of which also attack man. Among its outstanding achievements were the discovery of the value of carbon tetrachloride as a remedy for hookworm disease, the formulation of effective meat inspection measures for the control of trichinosis, and the development of a swine-sanitation system.

The program of the Bureau's work in the future includes many important measures for the further development of the livestock industry and the protection of the public. Among its aims are the further improvement of quality of livestock, exclusion of additional animal diseases and parasites, raising of the standards of livestock sanitation, the humane treatment of livestock, and elevation of the standards of veterinary education.

This program also provides for the further dissemination of information beneficial to livestock producers, commercial enterprises, and the public, distributed through various publications, motion pictures, exhibits, and radio material prepared for information purposes.

The Foundation Company

ENGINEERING CONSTRUCTION

An Organization of experienced men, equipped with modern plant, prepared to undertake engineering construction anywhere.

120 Liberty Street
City of New York

OFFICES IN PRINCIPAL CITIES

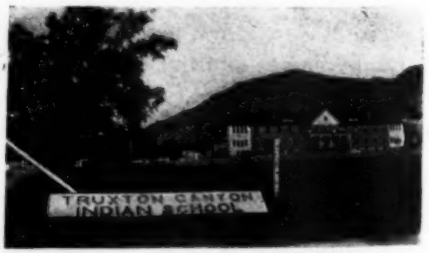
OFFICE OF INDIAN AFFAIRS

LEWIS MERIAM

Associate Director, Institute of Government Research

THE primary function of the Office of Indian Affairs, as I see it, is to educate the Indian wards of the Government to enable them to participate fully in the social and economic activities of the dominant white civilization, or to maintain themselves in the presence of that civilization in health and in reasonable comfort in their present surroundings. Another important function which should be performed with educational objectives is the management of the property of the Indian wards, both tribal and individual.

Although these functions can be rather simply stated, their performance involves a multitude of activities and almost endless details. The Indian Office undertakes for the restricted Indians almost all the activities which are performed for other citizens by the State, county and municipal or other local governments, and also some activities which the ordinary citizen secures for himself from private sources. To cite some of the more important activities, the Indian Office supplies public health administration, medical care, schooling, adult education for economic advancement and for the development of a more healthful family and community life, to a too limited extent an employment service and the maintenance of law and order in the Indian country. As guardian over the property of restricted Indians, it is concerned with the conservation and management of Indian property both tribal and individual. In many jurisdictions the old tribal lands have been allotted to individual Indians. Upon allotment the individual Indians took title to the property under trust patents. The Indian Office may declare an Indian owner under a trust patent competent to manage his own affairs. Thereupon a fee patent is issued to him, and he ceases to be a ward of the Federal Government. Obviously the proper exercise of this responsibility involves, or should involve, a thorough study of individual cases, for it is very easy to make serious and almost irretrievable mistakes. When an individual Indian holder of a trust patent dies, the Indian Office has the duty of administering his estate, or if he has made a will the duty of passing upon the validity of that will and seeing that if valid it is properly executed. Sales have to be made both of the estates of deceased restricted Indians and of the property of restricted Indians and sometimes of surplus Indian lands left after allotment. The wisdom of this system which tends to separate the Indians



from their land with the passage of the generation of Indians to whom the land was alloted is open to serious question, and it is the hope of the Indian Office that Congress will give careful consideration to the subject.

These activities of the Indian Office would be relatively simple if the two hundred-odd thousand restricted Indians were one homogeneous group living in a single general locality under somewhat similar conditions, but the facts are quite otherwise. They are widely scattered over some twenty-six different States. They belong to about two hundred different tribes with many different languages and many different native cultures. They differ widely in respect to their degree of advancement, their purity of Indian blood, their contacts with white communities, and their wealth and property holdings. To conduct the work done by the Government in their behalf requires a field force of approximately five thousand employees and this staff is hardly adequate.

A comparatively small proportion of the Indians are fairly well to do, if not really rich, because of their ownership of great natural resources. The Osage Indians, as a tribe, have rich oil properties in Oklahoma, and many individual Indians, particularly among the Five Civilized Tribes in Oklahoma, have oil lands. Thus the Indian Office as guardian must manage large oil properties, leasing them to private companies for development, supervising the operation of these companies, and collecting and distributing the royalties. The responsibility for the administration of the estates of these wealthy restricted Indians is heavy, for many persons turn up with claims against them and the Indian Office must be reasonably certain of the justice of these claims before they are paid. When a restricted Osage Indian wishes to build a new house the Indian Office must see that the contract and the specifications are reasonable and that the house is actually built to specifications. Even doctors' bills have to be scrutinized to protect the restricted Indians from excessive and unreasonable charges.

Some Indians, notably the Klamaths in Oregon, the Menominees in Wisconsin, and the Quinaults in Washington, have rich timber holdings. Thus the Indian Office is deeply concerned with forestry. On the Menominee Reservation in Wisconsin, it operates a fairly large modern lumber mill. On the Klamath Reservation and the Quinault Reservation, the timber is sold to private mills through competitive bidding. The forestry division of the Indian Service has to care for the forests and exercise general supervision over companies which have contracts for the purchase of the timber.

On the Flathead Reservation in Montana is one of the finest power sites in the country. Rival companies are bidding for the privilege of developing the power. White settlers on the irrigation project there developed claim an interest in the power rights. Thus again the Indian Office, as guardian of the Flathead Indians, is drawn into an extremely intricate and difficult problem.

Many of the Indian tribes are located in the more arid parts of the West where almost all agriculture,

except stock raising, is dependent on irrigation. The Indian Office, therefore, must maintain an irrigation service. Some of its irrigation projects are large and important, notably the Yakima project in Washington and the Pima project in Arizona. Many of them are relatively small matters, such as the development of water holes or wells for domestic supply or for watering live stock, but these are of great importance to the Indians in the vicinity and are appreciated by them. On the large projects the engineering problems are generally fairly easily solved. The difficult problem is to get the Indians to make beneficial use of the water and to cultivate their own lands. If the irrigation project is an economic success, white people want the use of the lands and seek to buy or rent them from the Indians. Many Indians prefer to accept a small rental which will barely enable them to get along rather than to work their own lands and get the far greater return that is thus available. The Indian Office needs to strengthen its force of men who can work with the Indians and help them to develop and utilize their own lands and thereby raise their standard of living.

These irrigation projects have not been uniformly successful. In some instances considerable sums of public money have been spent on irrigation projects that have proved economically unsound. These expenditures have been made reimbursable and are a lien against the Indians' land. Some appropriations which were originally made as a gift to the Indians were by subsequent legislation made reimbursable. The constitutionality of such legislation has not been tested. This whole subject of reimbursable loans is most embarrassing, because in many instances the Indians probably cannot repay them from the proceeds of working the land. The hope of the Indian Office is that Congress will give this whole subject of reimbursable loans the thorough study that it deserves and pass remedial legislation that will do justice to the Indians.

The existence of a multitude of unsettled Indian claims against the Government is another problem that embarrasses the Indian Office and calls for early congressional action. Prior to 1871 the Federal Government dealt with the Indian tribes as separate nations by treaties. Many of these treaties gave the Indians land which has subsequently been taken from them so that the Indians have claims against the Government. The present procedure for settling claims is slow and complicated and involves a vast amount of detailed investigation of facts. The Indians who have claims against the Government have great expectations regarding what they will ultimately get from the Government, and some of their white attorneys encourage them in these expectations. Until these claims are disposed of definitely many Indians will remain in a state of uncertainty, believing that they are wealthy if the Government will only pay them what it owes. Unless some definite action is taken to expedite the settlement of these claims they may retard the development of the Indians for years to come.

Many of these matters involving property tend to divert the Indian

Office from its main task, which is to work with the Indians educationally and to help them in becoming adjusted to the prevailing civilization.

The formal education of the Indians through schools is not simple, because of the diversity of conditions among them. Obviously the schools should fit them for life. In recent years the Indian Office has followed the practice of putting the Indian boys and girls in public schools and paying tuition for them where they are living near white communities and have progressed a considerable way along the white man's road. At present the number of Indian children in public schools is about 34,000, as contrasted with 26,000 in special schools maintained for Indians by the National Government. About 7,000 are in mission and private schools. Thus a little more than half the Indian school children are now in public schools. This policy is sound provided the National Government supplements the work of the public schools by rendering to these Indian children and their families the needed extra service to give them what the schools do not and to enable them to take full advantage of their opportunities.

Over 21,000 Indian children are in boarding schools operated by the United States Government. These boarding schools have been the subject of much criticism. It has been true that many very young children have been taken away from their families and sent to boarding schools at an age when they needed their families and their families needed them for the development of a normal, healthy family life. This situation can be corrected, perhaps gradually, by placing children in schools near their homes, either public schools or day schools operated by the Indian Office. It has been true that the provisions for the care of children in boarding schools have been unsatisfactory. President Hoover has recommended to Congress an additional appropriation for food, clothing and medical care of these children, which should bring these schools to a satisfactory standard. It has also been true that the educational program in these schools has been uniform and has not been sufficiently directed toward training the boys and girls for the life they are to live. That defect is now clearly recognized, and the Indian Office is at work on the problem of relating education to life. It is not a problem that can be worked out overnight. It cannot be solved by a fiat issued from the Washington office. It calls for originality and initiative on the part of the teachers in the Indian schools aided and assisted by the best supervisors and specialists the Washington office can send to their aid. The situation is a challenge to everyone now in the educational work of the Indian Service. The belief of the office is that many of the present teachers can meet that challenge provided the Indian Office can help them by sending competent supervisors and specialists who are in touch with successful methods of individualizing education.

That the Indian boys and girls when through school need aid in getting established in productive industry is also clearly recognized and already work has begun in this direction. The need of the Indian boys

and girls in this direction is far greater than that of white children because they cannot secure so much help from their own family and their relations. Often they must seek employment away from their old homes in an environment that is largely new to them. The Indian Office in the past has done comparatively little in this direction. The present indications are that to a rapidly increasing extent the boys and girls from the non-reservation boarding schools are desirous of finding employment in urban communities and do not wish to return to reservation life, which offers little opportunity for development. If this movement is to be successful and not result in a good deal of human wreckage, the Indian boys and girls must be given some aid in meeting situations to which they are not accustomed. The hope of the Indian Office is that effective cooperative arrangements can be worked out with existing agencies in the industrial communities involved so that it will not be necessary to develop an independent Indian service for this type of work.

The economic and social opportunities for a successful life for the Indians in their own reservations have by no means been exhausted. Many Indians are by inheritance agriculturists. With intelligent aid and assistance their opportunies for successful development in this direction can be greatly increased.

Among some tribes, particularly in the Southwest, distinctively Indian arts and crafts are still an important factor in the economic life of the people. The Navajos are noted for their rugs and silver work, the Pueblos for their pottery and the Hopis for their pottery and basketry. The plains tribes still do some excellent bead work. The belief generally held is that these native arts and industries can be made a far greater economic factor in the life of these Indians if the marketing of the goods can be improved. The demand for the better grades is even now greater than the supply. The hope of the Indian Office is that a method for better marketing of these goods and for increasing the supply of the higher quality products can be developed. Plans toward this end are already being developed.

Among the plains Indians of the Northwest one of the problems is to find domestic industries that can be introduced to supply both the men and the women with profitable employment during the long winters. The agricultural season is short and farming more or less uncertain. In bad years these Indians often have a hard time getting through the winter. On several reservations material improvement has resulted from the institution of five-year agricultural programs which have increased agricultural production and the utilization of resources, but a great need remains for finding some profitable work for the winter.

Just as in the agricultural extension work of the Department of Agriculture home demonstration work has gone hand in hand with improvement in agricultural production, so in the Indian Service work with the women and the families must accompany work to increase economic efficiency. Already the Indian schools have made material improvement in the training

CELOTEX

BRAND

INSULATING CANE BOARD

The Most Powerful Factor
In Popularizing Home Ownership

Members of the Building Trades, Operative Builders, Contractors, Architects, Building Material Dealers and Bankers say the powerful national advertising campaign of The Celotex Company to stimulate public interest in Home Ownership is the most effective ever released.

Not only does this praise refer to the increase in home-building and home-buying activity, but it also gives credit to the merit of Celotex Products. Today Celotex will be found in nearly 300,000 homes. Such a situation is extremely beneficial to the building trades.

In the future The Celotex Company's national advertising will continue to emphasize in a powerful way the pleasures and practical advantages to be enjoyed through Home Ownership.

THE CELOTEX COMPANY

919 North Michigan Ave., Chicago, Ill.

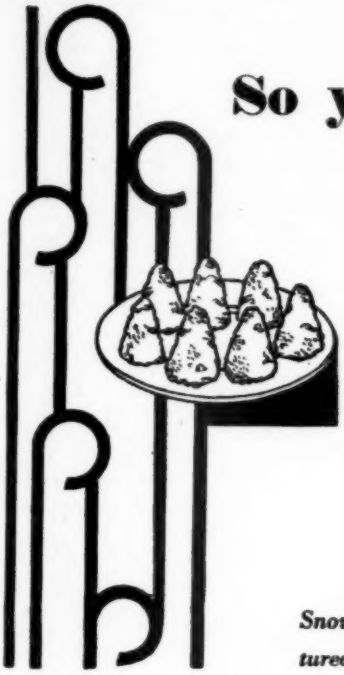
CELOTEX ***"Keeps Winter Heat In***
Keeps Summer Heat Out"

they are giving in home economics. The lesson has been learned that among the more primitive tribes progress is not made in one great jump from the primitive to the advanced, but that it is made step by step.

Particularly in those jurisdictions where Indian children are being placed in public schools, the need is great for competent visiting teachers or other persons trained by social service who can work between the home and the school. Their duty would be to see that the home conditions are such that the Indian children will be freely received in the public schools and that they can get what the public schools have to offer. The almost universal testimony is that practically no prejudice exists against the Indian children solely on the ground that they are Indians. Where local prejudice does develop it is usually based on the ground of the health of the Indians or other conditions that have their origin in the home conditions. To eliminate these objections the Indian families must be helped as well as the children attending the schools. The National Government cannot expect the public schools to do more for the Indian children than they do for the other children of the community. If this practice of placing Indian children in public schools is to attain its full possibilities, the National Government itself must supplement the work of the public schools in this important aspect.

In California the State and county authorities are apparently willing not only to admit the Indian children to public schools but also to supply them with the requisite medical and social assistance, provided the National Government will contribute toward the cost of this work what it has itself been spending for the care of the California Indians. The Indians in California are widely scattered and nowhere are large numbers found in any one place. To develop an adequate, effective national service for these scattered Indians would be extremely costly. It seems entirely possible that through cooperation with the State of California a far more efficient service can be rendered without material increase in national expenditures. This subject is being studied carefully, and the Indian Office may later be in a position to recommend a definite plan. If such an experiment should be tried in California and should prove successful, the plan might gradually be extended to other states which are equipped to render the necessary social and educational service to Indians. Under such a plan the National Government would retain its full control over Indian property and would exercise broad and general cooperative supervision over the work done by the State in so far as that work involved the expenditure of Federal funds. In respect to the social and educational work the relationship between the State and the Nation would be somewhat similar to the relationship that exists in agricultural extension work.

In all the activities of the Indian Office the educational purpose must be dominant. Means must be found by which all work with the Indians will be progressive so that the Indian will always have a goal before him. Each step forward should bring its



So you're going to fry

CROQUETTES

Snowdrift's the first thing you need. It's the fat that will fry them to tender and wholesome perfection. And Snowdrift can be used again and again, after straining, for it doesn't absorb any frying odors.

Snowdrift makes light fine-textured cakes, biscuits and pastry, too.

reward and stimulate him to further effort. The object must be to work with the Indians rather than for the Indians, to help them in getting on their own feet in what is to them an alien situation. Many of them have already done so. To accomplish this purpose it is neither necessary nor desirable that the Indians forget that they are Indians or that they abandon all their ways that differ from those of the whites. Much that the Indians have not only can be saved but made a real addition to American life. In the present, as in the past, the Indians produce great men, great leaders of their people. To the Indians the Government must open the door to opportunity under the modern conditions of civilization. Abundant evidence tends to show that with a proper system of education the Indians will respond to their opportunities.

WE SCRUB FOR UNCLE SAM

JANE WASHINGTON

THERE are no more faithful, enthusiastic members of the National Federation of Federal Employees than the employees who compose the Government char force, the women who, during the night or in the early morning hours, sweep and scrub and dust so that the offices may be clean when they are opened to the public at the beginning of the working day. These are the women who keep spotless the marble halls of the huge Government buildings of which we are so proud. They clean the countless steps; they dust the thousands of desks and empty hundreds of waste baskets. When trash or cigarette ashes are carelessly disposed of behind the radiators they go down on their knees and get them out.

Practically all of the char force in the District of Columbia are members of either Local No. 71 or Local No. 2. In 1918 they were organized as the Charwomen's Branch of Local No. 2. For a long time they functioned in this way and during this period they secured the attention of the Women's Bureau of the Department of Labor, which made an investigation into their working conditions. The investigation showed that in general their duties consist in sweeping floors and rugs with brooms, carpet-sweeping and vacuum-cleaning carpets and rugs; mopping and scrubbing floors and stairs, either by hand or with long-handled mops; emptying waste baskets; dusting furniture; washing woodwork, mirrors and wash basins; wiping up floors with oil mops and cleaning toilet rooms.

The work of the charwomen in the Library of Congress is different from that of women employed in other buildings. The highly polished marble floors and stairs require painstaking care and increased labor because of the great number of daily visitors to the building. The scrubbing has to be done entirely by hand, the women getting down on their hands and knees. A scrubbing machine was tried, but proved unsuccessful on account of the fineness of the work.

Most of the women work in three-hour shifts, coming on in the early morning or late evening. A number of them, however, work an eight-hour shift from 11:30 p. m. until 7:30 a. m.

The charwomen take great pride in their work, and there is much rivalry to see which floor in a building will present the neatest appearance. Perhaps more than others this group is appreciative of condemnation, and in many instances are known to do much more than the required day's work because their "office-folks" express their thanks.

As dues-payers the charwomen rank high, for in spite of the low wages they receive it is seldom if ever that a notice of delinquency has to be sent to a charwoman. The Federation counts them among its most faithful members.

ECONOMIC STATISTICS

UNEMPLOYMENT A SERIOUS PROBLEM

TWO years ago, men and women out of work came to charity agencies in thousands to save their families from starvation. The problem grew to such proportions that public anxiety was aroused and Government and philanthropy offered help. This year our reports from trade unions show higher unemployment than in 1928. In January 1930, 19 per cent of union members in 24 cities were out of work, as compared with 18 per cent at the highest point in the winter of 1928. Recent Department of Labor reports give ground for hope that unemployment in manufacturing industries will not last so long as in 1928, but time must elapse before all unemployed can find work and there will be much suffering.

Building tradesmen have the heaviest losses, with 38 per cent of all members out of work. The worst conditions are in Chicago, (45 per cent unemployed), St. Louis (42 per cent) and New York (40 per cent). In metal trades 75 per cent more are out this year than last and there have been large increases in 8 cities since December. Printing trades where employment is usually comparatively

Unemployment by Cities[1]

	Building Trades		All Other Trades		Total, All Trades	
	Dec. 1929	Jan. 1930	Dec. 1929	Jan. 1930	Dec. 1929	Jan. 1930
Atlanta, Ga.	32	33	3	3	8	8
Baltimore, Md.	30	25	7	7	19	17
Birmingham, Ala.	42	39	2	9	12	17
Boston, Mass.	22	33	5	6	11	16
Buffalo, N. Y.	28	38	20	20	22	24
Chicago, Ill.	41	45	9	9	20	22
Cincinnati, Ohio	36	35	7	7	14	14
Cleveland, Ohio	31	38	6	7	19	23
Denver, Colo.	32	37	17	17	23	24
Detroit, Mich.	18	26	10	13	15	20
Jersey City, N. J.	34	32	15	15	21	20
Los Angeles, Calif.	13	28	16	16	15	19
Milwaukee, Wis.	28	32	5	6	11	12
Minneapolis, Minn.	27	29	8	11	13	15
New York, N. Y.	32	40	9	13	16	21
Omaha, Nebr.	18	31	4	7	7	12
Paterson, N. J.	25	37	13	12	17	20
Philadelphia, Pa.	34	36	7	12	18	21
Pittsburgh, Pa.	24	35	3	5	10	15
San Antonio, Texas	22	25	3	4	7	8
San Francisco, Calif.	23	25	10	10	11	12
St. Louis, Mo.	37	42	7	10	14	18
Seattle, Wash.	31	36	19[2]	21[2]	22[2]	25[2]
Washington, D. C.	26	29	3	3	9	11

(1) Reports from identical unions.
(2) High percentage of unemployment due chiefly to large number of deep-sea fishermen out of work.

II. Unemployment by Trades(1)

Year	Month	All Trades	Building Trades	Printing Trades	Metal Trades	All Other Trades
1928	January	18	36	4	18	
	February	18	39	5	16	
	March	18	38	5	13	
	April	16	32	5	12	
	May	13	25	4	12	
	June	11	22	4	10	
	July	12	24	5	13	
	August	9	19	5	9	
	September	10	22	5	8	
	October	9	18	5	8	
	November	10	21	4	7	
	December	13	23	3	7	
1929	January	15	30	4	8	
	February	15	33	5	8	
	March	14	34	5	7	
	April	12	29	4	6	
	May	11	26	3	5	
	June	9	19	3	5	
	July	9	16	4	6	
	August	9	18	4	7	
	September	10	21	3	7	
	October	11	22	4	7	
	November	12	23	4	8	
	December	16	32	4	11	10
	January (2)	19	38	5	14	11

(1) For an explanation of the collection and computation of the figures, see March, 1928, AMERICAN FEDERATIONIST.

(2) Preliminary

steady, are suffering more this year than in either 1928 or 1929.

Radio and "talkies" have thrown thousands of musicians out of work, and stage employees also have difficulty in finding work this winter. Dull business makes it hard for truck drivers and deliverymen to find work, and waiters, restaurant workers and bakers also report heavy unemployment. In garment manufacturing centers, thousands of women's garment workers, fur workers, millinery and neckwear workers, and others in needle trades are without work. Seacoast and great lakes cities have heavy unemployment among longshoremen, sailors, marine cooks, and firemen, tugmen, and fishermen.

All these, added to the large numbers laid off by factories and other trades, make the situation critical in a number of cities. In New York, St. Louis, Cleveland, Detroit, Los Angeles, unemployment has increased heavily since December and has now reached serious proportions, as shown by reports of union members. In Buffalo, Chicago, Denver, Jersey City, Paterson, N. J., and Philadelphia, unemployment is also very high, and much suffering will result unless work is found or relief provided.

FACTS YOU OUGHT NOT TO MISS

Unemployment Chief Cause of Dependency

OF 1,000 families who applied for help in Boston charitable agencies, 557 gave unemployment as a cause of their economic breakdown. In most of these cases it was the chief cause. Low wages had probably prevented these families from saving enough to tide them over, for over half of the men (59 per cent) had been earning less than $25 a week, and nearly three-fourths of the women (72 per cent) had earned less than $15 a week.

Business depression, seasonal dullness, accidents, and lack of work at the plant had thrown two-fifths of these men out of work (42 per cent), and illness was another important cause. The trades suffering most were: Unskilled laborers (91 families), building tradesmen (48), clothing trades (44), machinists and metal workers (42), teamsters and taxicab drivers (32), hotel and restaurant workers (17), clerks in stores (14).—Study by Wilhelmina Luten, Women's Educational and Industrial Union, Boston, Mass., covers families helped between 1918 and 1928.

Low Wages, Bad Housing, Crime, Deaths

Low wages are one of the chief causes of overcrowded housing conditions—workers cannot afford good homes.

A recent study in Detroit shows that there are six and seven times as many major crimes per 1,000 population where people are living in the most congested conditions. The crime record in the least crowded district is one per 1,000, and from six to seven per 1,000 in the three most congested districts.

Infant mortality is also high in crowded districts. There are as many as 95 infant deaths per 1,000 births in the most crowded sections, and as low as 53 per 1,000 births in the least crowded.

Deaths from pneumonia increase enormously with congested conditions. Death rates per 100,000 population are as follows: From pneumonia: in one of the least crowded districts, 63; in the three most crowded districts, 100 to 125. From tuberculosis: in the three least crowded districts, 45 to 67; in the four most crowded, 114 to 135.

This study was made by a house-to-house canvass under the city department of health.

Union Achievement

A carpenter in Boston earned as much in one hour in 1928 as he did in one day of 10 to 14 hours in 1840. Average wages of carpenters were $1.25 per hour in Boston in 1928 for a 44-hour week, as compared to $1.25 a day in Massachusetts in 1840 for a work-week of 60 to 84 hours.

A bricklayer in Pennsylvania earned $1.75 to $2 a day in 1847 and worked ten hours a day, six days a week. In 1928 he earned $1.62½ an hour and worked five eight-hour days a week.

A cotton weaver in Massachu-

setts in 1841 earned 33 cents a day and worked 14 hours a day and 84 hours a week. Today (1928) he earns 43 cents an hour (average) and works 50 hours a week (average).

These figures from "History of Wages in the United States," Bureau of Labor Statistics, show what has been accomplished in industries where unions have set standards.

Accidents Cost Money

Accidents cost coal miners about $106,060,500 a year in wages, according to an estimate by the National Safety Council. Through nonfatal accidents alone the wage loss to miners is about $36 a year for every man employed. When fatal accidents are included, it amounts to $124 per miner per year.

Operators also lose, for accidents cost the employer about 14 cents per ton of coal mined. The total loss to employers and employees from accidents in 1926 was $188,000,000.

Lost—$10 a Week

The average wage of Southern factory workers is $10 a week less than the rest of the country. Average wages for the South are $17.97 in manufacturing industry; for all other sections, $28 a week.* These figures take account of part-time employment and overtime.

There are 1,505,744 wage-earners * in Southern factories. If they received the same wages as their fellow workers in other parts of the United States, they would have over $787,000,000 more a year to spend for the products of industry. The lost $10 a week is a loss not only to the wage-earner but to Southern merchants and to manufacturers the country over, who lose over 700 million dollars worth of business each year. To Southern wage-earners the lost $10 means $520 less a year for family upkeep. This is taken out of the children's food, clothing and education, the furnishings of the home, recreation, and a hundred other items. It means a lower standard of living, a cramped existence and lessened opportunity for mental and spiritual growth.

Wages are particularly low in Southern textiles. A Southern cotton mill worker's wages average $12.94 a week,* $6.71 below the average for all other sections of the country.

Union rates for cotton mill workers are from $5 to $18 above Southern average rates. The table below gives rates for different kinds of work.

Comparison of Wages

	† Union wage rates	‡ Southern average wage rates	Difference
Spoolers	$19.60	$10.07 to $13.97	$5.63 to $9.53
Spinners	17.55 to $24.60	11.83 to 15.76	5.72 to 8.84
Slasher tender	34.05	20.41 to 15.73	13.64 to 18.32
Slubber tenders	31.00 to 32.00	15.73 to 21.42	10.58 to 15.27
Doffers	23.15 to 29.30	14.52 to 16.41	8.63 to 12.89
Weavers	26.00 to 27.50	15.24 to 22.37	5.13 to 10.76
Loom fixers	36.10	20.74 to 26.55	9.55 to 15.36

* Figures from 1927 Census of Manufacturers.
‡ Bureau Labor Statistics Bulletin No. 492, averages for Southern States.
† Bureau Labor Statistics Bulletin No. 476.